

**PUBLIC UTILITIES COMMISSION**

505 VAN NESS AVENUE

SAN FRANCISCO, CA 94102-3298

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TO PARTIES OF RECORD IN INVESTIGATION 11-02-016.

This proceeding was filed on February 24, 2011, and is assigned to Commissioner Michel Peter Florio and Administrative Law Judge (ALJ) Yip-Kikugawa. This is the decision of the Presiding Officer, ALJ Yip-Kikugawa.

Any party to this adjudicatory proceeding may file and serve an Appeal of the Presiding Officer's Decision within 30 days of the date of issuance (i.e., the date of mailing) of this decision. In addition, any Commissioner may request review of the Presiding Officer's Decision by filing and serving a Request for Review within 30 days of the date of issuance.

Appeals and Requests for Review must set forth specifically the grounds on which the appellant or requestor believes the Presiding Officer's Decision to be unlawful or erroneous. The purpose of an Appeal or Request for Review is to alert the Commission to a potential error, so that the error may be corrected expeditiously by the Commission. Vague assertions as to the record or the law, without citation, may be accorded little weight.

Appeals and Requests for Review must be served on all parties and accompanied by a certificate of service. Any party may file and serve a Response to an Appeal or Request for Review no later than 15 days after the date the Appeal or Request for Review was filed. In cases of multiple Appeals or Requests for Review, the Response may be to all such filings and may be filed 15 days after the last such Appeal or Request for Review was filed. Replies to Responses are not permitted. (See, generally, Rule 14.4 of the Commission's Rules of Practice and Procedure at www.cpuc.ca.gov.)

If no Appeal or Request for Review is filed within 30 days of the date of issuance of the Presiding Officer's Decision, the decision shall become the decision of the Commission. In this event, the Commission will designate a decision number and advise the parties by letter that the Presiding Officer's Decision has become the Commission's decision.

/s/ MARYAM EBKE for

Timothy J. Sullivan

Chief Administrative Law Judge (Acting)

TJS/lil

Attachment

Decision **PRESIDING OFFICER'S DECISION** (Mailed 9/2/2014)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Investigation on the
Commission's Own Motion into the
Operations and Practices of Pacific Gas
and Electric Company with Respect to
Facilities Records for its Natural Gas
Transmission System Pipelines.

Investigation 11-02-016
(Filed February 24, 2011)

(See Appendix A for a list of appearances.)

**PRESIDING OFFICER'S DECISION REGARDING ALLEGATIONS OF
VIOLATIONS REGARDING PACIFIC GAS AND ELECTRIC COMPANY'S
OPERATIONS AND PRACTICES WITH RESPECT TO FACILITIES RECORDS
FOR ITS NATURAL GAS TRANSMISSION SYSTEM PIPELINES**

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APPENDIX A: Appearances

APPENDIX B: Table of Violations

**PRESIDING OFFICER'S DECISION REGARDING ALLEGATIONS OF
VIOLATIONS REGARDING PACIFIC GAS AND ELECTRIC COMPANY'S
OPERATIONS AND PRACTICES WITH RESPECT TO FACILITIES RECORDS
FOR ITS NATURAL GAS TRANSMISSION SYSTEM PIPELINES**

1. Summary

This decision finds that Pacific Gas and Electric Company (PG&E) has violated American Society of Mechanical Engineers (ASME) B.31.8, Pub. Util. Code § 451, General Order 112, and regulations set forth in Part 192 of Title 49 of the Code of Federal Regulations for failing to maintain its gas transmission pipeline records in a manner to allow safe operation of its gas transmission pipeline system. PG&E is also found to have violated Rule 1.1 of the Commission's Rules of Practice and Procedure for providing incorrect and misleading responses to data requests to Commission staff. This decision finds that PG&E committed 33 violations, many of them continuing for years, for a total of 350,189 days in violation.

The proceeding remains open to consider, in a separate decision, monetary fines and other remedies to be imposed on PG&E in light of this decision as well as decisions addressing alleged violations in investigations into other aspects of PG&E's gas transmission system — Investigation (I.) 11-11-009 and I.12-01-007.

2. Background

On September 9, 2010, a 30-inch diameter segment of a natural gas transmission pipeline owned and operated by Pacific Gas and Electric Company (PG&E) ruptured in a residential area in San Bruno, California.¹ The fire and

¹ The affected pipeline is also known as Line 132. The segment which ruptured is identified as Segment 180.

explosion caused by the rupture resulted in 8 fatalities, numerous injuries, destruction of 38 homes and damage to 70 homes. Immediately after the incident, the Commission's Consumer Protection & Safety Division (CPSD)² and the National Transportation Safety Board (NTSB) opened separate investigations into the cause of the rupture on Line 132, Segment 180.

On January 3, 2011, the NTSB issued Safety Recommendation P-10-2 and -3 (Urgent) and P-10-4. In its Safety Recommendation, the NTSB expressed its concern over the adequacy of PG&E's recordkeeping practices. Shortly thereafter, NTSB Chair Deborah Hersman also publically expressed her concerns regarding the adequacy of PG&E's recordkeeping practices.

Based primarily on the NTSB's January 3rd Safety Recommendation, the Commission opened this Order Instituting Investigation (OII) on February 24, 2011.³ The Commission subsequently opened two other investigations relating to the San Bruno explosion. Investigation 11-11-009 (Class Location OII) is the Commission's investigation into whether any of PG&E's operations and practices of its natural gas transmission pipeline system in locations with higher population density were in violation of state or federal statutes and regulations or Commission rules, general orders or decisions. Investigation 12-01-007 (San Bruno OII) is the Commission's investigation into whether PG&E violated any state or federal statutes or Commission orders in connection with the San Bruno explosion. Together, the three OIIs are referred to as the "Pipeline

² As of January 1, 2013, CPSD has been renamed the Safety and Enforcement Division (SED). However, for consistency and to avoid confusion, this Decision continues to refer to SED by its former name, CPSD.

³ The OII was initiated by the Commission's Legal Division. On January 13, 2012, CPSD took over for the Legal Division as the party pursuing the enforcement action against PG&E.

OIIs". In addition to the Pipeline OII, the Commission also opened Rulemaking (R.) 11-02-019 to adopt new safety and reliability programs for natural gas transmission and distribution pipelines.

This OII would determine whether PG&E had violated Section 451 of the California Public Utilities Code, or any other applicable statute, law, general order, or Commission decision with respect to PG&E's recordkeeping practices.⁴ In particular, the OII would evaluate:

- the adequacy of PG&E's recordkeeping for the entire life of the San Bruno pipeline that ruptured on September 9, 2010, under both state law and under federal standards and law that the Commission is specifically empowered to enforce.
- the recordkeeping adequacy for all PG&E gas transmission pipelines.⁵

The OII contemplated two separate phases. The first phase would determine whether PG&E's recordkeeping practices were inadequate or unsafe. If violations were found in the first phase, the second phase would determine whether penalties pursuant to Public Utilities Code section 2107 and 2108 were warranted.⁶

The OII further directed PG&E to submit documents responsive to directives set forth in the OII by April 18, 2011.⁷ At a prehearing conference held on March 17, 2011, PG&E stated that it would not be able to respond to all the directives in the OII by that date. PG&E was granted permission to respond to

⁴ OII at 11.

⁵ OII at 9.

⁶ OII at 12-13.

⁷ OII at 17.

the directives in paragraphs 1, 5 and 6 by that date and to the directives in paragraphs 2, 3, 4, 7, and 8 by June 18, 2011.⁸ PG&E sought and was granted a further extension of time to submit responsive documents to the directives in paragraph 7. PG&E would submit data and documents responsive to Paragraph 7 for high consequence area (HCA) pipelines on a rolling production basis between June 18, 2011 and September 30, 2011, and data and documents for non-HCA pipelines by December 31, 2012.⁹ The following documents were filed in response to the directives in the OII:

- April 18, 2011 *PG&E Initial Response*
- April 25, 2011 *Amendment to Initial Response*
- April 29, 2011 *Second Amendment to Initial Response*
- June 20, 2011 *PG&E's Response (and 27 CD-ROMs)*
- July 12, 2011 *Third Amendment to Response (and 1 CD-ROM)*
- September 13, 2011 *Second Amendment to Response filed on June 20, 2011 (and 1 CD-ROM)*
- September 30, 2011 *Third Amendment to Response filed on June 20, 2011 (and 1 CD-ROM)*
- January 15, 2012 *Fourth Amendment to Response filed on June 20, 2011 (and 1 CD-ROM)*

⁸ *Assigned Commissioner and Administrative Law Judge's Ruling Extending Deadlines for Production of Documents and Setting Prehearing Conference*, issued March 24, 2011 at 2.

⁹ *See Administrative Law Judge's Ruling Granting Motion for Extension of Time*, issued June 8, 2011, at 4 (Ruling Paragraph 1).

- March 19, 2012 *Fifth Amendment to Response filed on June 20, 2011 (and 1 CD-ROM)*

Prehearing conferences (PHC) were noticed and held on March 17, May 9, June 6, September 6, and November 1, 2011. The Assigned Commissioner's Scoping Memo and Ruling (Scoping Memo) was issued on November 21, 2011. Additional PHCs were held on January 17 and March 30, 2012.

CPSD submitted two separate reports on March 12, 2012. The first was titled *Report and Testimony of Margaret Felts*, and the second was titled *Records Management within the Gas Transmission Division of Pacific Gas and Electric Company prior to the Natural Gas Transmission Pipeline Rupture and Fire, San Bruno, California September 9, 2010*.¹⁰ The Utility Reform Network (TURN), the City and County of San Francisco (CCSF) and the City of San Bruno (CSB) submitted intervenor testimony on April 30, 2012. PG&E served responsive testimony on June 26, 2012. On May 18, 2012, CPSD filed a motion requesting permission to serve rebuttal testimony. That motion was granted, and CPSD served its rebuttal testimony on August 20, 2012.

Evidentiary hearings on violations were held from September 5-19, 2012; October 2-5, 2012; and January 7, 9, 10, and 15-17, 2013. Due to overlap between this proceeding and the San Bruno Order Instituting Investigation (OII), joint hearings were held to the extent there were common witnesses or issues.¹¹

On September 7, 2012, CPSD filed two coordinated motions in the Pipeline OIIs seeking leave to serve additional prepared testimony regarding PG&E's

¹⁰ CPSD served *Revised Report and Testimony of Margaret Felts* on March 16, 2012. On March 30, 2012, CPSD served supplemental testimony for both Ms. Felts and Dr. Duller/Ms. North.

¹¹ References to the Reporter's Transcript of hearings in just this proceeding are "RT". References to the Reporter's Transcript of joint hearings are "Joint RT".

financial resources in the Pipeline OIIs and permission to file a single coordinate brief regarding fines and remedies. The two motions were granted on September 25, 2012. Since fines and remedies will be considered in a coordinated fashion, there will be no need to conduct a second phase in this investigation if violations are found.

Concurrent opening briefs on violations were filed on March 25, 2013, by CPSD, PG&E, The Utility Reform Network (TURN), CCSF, the Division of Ratepayer Advocates (DRA)¹², and Californians for Renewable Energy (CARE).¹³ Concurrent reply briefs on violations were filed on April 24, 2013, by CPSD, PG&E, TURN, CCSF, DRA, and CARE.

Although the filings, briefs, transcripts and exhibits in this proceeding are available in hard-copy, the following are available only available on archival CD-ROMs in the Commission's Central Files:

1. Attachments to the following PG&E filings:
 - a. PG&E's June 20, 2011 Response
 - b. Third Amendment to Response
 - c. Second Amendment to Response filed on June 20, 2011
 - d. Third Amendment to Response filed on June 20, 2011
 - e. Fourth Amendment to Response filed on June 20, 2011
 - f. Fifth Amendment to Response filed on June 20, 2011

¹² The Division of Ratepayer Advocates (DRA) was renamed the Office of Ratepayer Advocates (ORA) effective September 26, 2013, pursuant to Senate Bill 96. However, for consistency and to avoid confusion, this Decision continues to refer to ORA by its former name, DRA.

¹³ Pursuant to an ALJ Ruling, PG&E was directed to refile its Opening Brief to remove citations to documents that were determined to be outside the scope of the proceeding or for which PG&E's request for judicial notice had been denied. PG&E filed its revised Opening Brief on April 18, 2013. All references to PG&E's Opening Brief in this decision are to the revised Opening Brief.

2. Exhibit CPSD-18, which contains
 - a. CPSD Testimony
 - b. Exhibits referenced by CPSD Testimony
 - c. PG&E Data Responses 1 – 86, including attachments
 - d. GIS-related exhibits
 - e. PG&E Data Response to Joint CPSD/TURN Data Request 1, Question 1

Documents only available on archival CD-ROMS are identified by their file names.

3. The OII and the Alleged Violations

The description of the events that occurred on September 9, 2010, and the earlier events which the NTSB and CPSD believed caused the explosion, are presented in a number of reports, including the NTSB's *Pipeline Accident Report NTSB/PAR-11/01*, issued on August 30, 2011 and CPSD's *Incident Investigation Report*, released on January 12, 2011.

3.1. The OII

The Commission opened this OII to determine whether PG&E “violated any provision or provisions of the California Public Utilities Code, Commission general orders or decisions, or other applicable rules or requirements pertaining to safety recordkeeping for its gas service and facilities.”¹⁴ At the time the Commission opened the OII, both the NTSB and CPSD had not yet completed their investigations of the San Bruno explosion. As part of its investigation, the NTSB had requested extensive records and other information from PG&E about its pipeline system.”¹⁵

¹⁴ OII at 1.

¹⁵ OII at 6.

On January 3, 2011, the NTSB issued Safety Recommendation Safety Recommendation P-10-2 and -3 (Urgent) and P-10-4. The Safety Recommendation noted that the NTSB had found a discrepancy between the ruptured pipeline segment for Line 132 that had been examined and what had been recorded in PG&E's as-built drawings and alignment sheets. The NTSB concluded that there was a possibility that there were other "discrepancies between installed pipe and as-built drawings in PG&E's gas transmission system."¹⁶ Based on the Safety Recommendation, as well as a January 26, 2011 statement by the Chair of the NTSB regarding the safety implications of PG&E's recordkeeping practices, the Commission concluded:

[T]he NTSB has serious safety concerns about the adequacy of PG&E's recordkeeping, based on the documents and other materials PG&E has provided to NTSB in the San Bruno investigation. From this, we infer that the state of PG&E's records regarding critical infrastructure (in particular, its high-pressure gas transmission pipelines) may have been inadequate to make critically important, ongoing safety decisions about PG&E natural gas transmission pipelines, particularly welded pipelines.¹⁷

In light of these concerns, the Commission decided to open "a formal investigation into whether PG&E's recordkeeping represents a deficient engineering practice that has fostered unsafe PG&E decision making about its transmission gas pipelines."¹⁸ The Commission further noted that the NTSB's findings "foster our concerns that for Line 132 and other transmission pipelines in populated areas, inaccurate, incomplete, and poorly organized and retrievable

¹⁶ Safety Recommendation P-10-2 and -3 (Urgent) and P-10-4 at 2.

¹⁷ OII at 8.

¹⁸ OII at 8.

data may have contributed to past unsound and unsafe PG&E risk assessment and operational decisions.”¹⁹ As a result, the Commission determined that there was good cause to open a formal investigation immediately, rather than wait for CPSD staff to conclude its investigation. Although the OII was opened to determine “whether PG&E’s gas safety recordkeeping has been conducted in a manner that violates the general provisions of Section 451 or of any other applicable law,”²⁰ the Commission also put PG&E on notice that “if staff later believes it has cause to assert a PG&E violation other than for recordkeeping, staff may bring the matter to the Commission’s attention and request that it be included in this investigation, or if a good reason exists for it, by commencement of a separate proceeding.”²¹

The OII directed PG&E to “provide a report by April 18, 2011, to identify all reasons of law and fact currently known to PG&E to establish that the company has committed no violation of law with respect to its recordkeeping of data needed and appropriate for safety engineering.”²² As part of its April 18 report, PG&E was to serve certain information, identified on pages 17-20 of the OII, on the Commission and all parties to the proceeding. Between April 18, 2011 and March 18, 2012, PG&E filed documents response to the directives in the OII.

¹⁹ OII at 10-11.

²⁰ OII at 11.

²¹ OII at 13.

²² OII at 16.

3.2. CPSD's Reports

CPSD submitted two separate reports on March 12, 2012. The first was titled *Report and Testimony of Margaret Felts*.²³ Ms. Felts' testimony focused on "PG&E's recordkeeping practices from an engineering perspective, focusing on two primary areas: 1) recordkeeping issues related to the September 9, 2010 San Bruno incident, and 2) recordkeeping issues related to the integrity management program and integrity management risk assessment model used to prioritize the replacement of pipes within PG&E's system."²⁴ The recordkeeping issues related to the San Bruno incident were:

1. There were missing records about the source, specifications, or history of the pipe of Segment 180 of Line 132.²⁵
2. There was an inconsistency in records on the Maximum Allowable Operating Pressure (MAOP) for Line 132.²⁶
3. PG&E personnel failed to follow the company's internal clearance procedures for work performed at the Milpitas Terminal on September 9, 2010.²⁷
4. There was an out-of-date Operating and Maintenance Instructions Manual at the Milpitas Terminal. As a result, PG&E employees did not have the relevant information necessary to respond in the event of an emergency.²⁸

²³ On March 16, 2012, CPSD submitted a revised version of Ms. Felts report and testimony. This revised version is Exh. CPSD-2 and referred to in this decision as the *Felts Testimony*.

²⁴ Exh. CPSD-2 at 1.

²⁵ Exh. CPSD-2 at 2.

²⁶ Exh. CPSD-2 at 2 - 6.

²⁷ Exh. CPSD-2 at 6 - 7.

²⁸ Exh. CPSD-2 at 8.

5. PG&E personnel may have been working with an outdated map and control room personnel may have been working with an incomplete diagram of the Milpitas Terminal.²⁹
6. The Milpitas Terminal did not have a copy of backup software in the event communications between the PLC system and the Process Automation Controllers was lost.³⁰
7. The Supervisory Control and Data Acquisition (SCADA) system failed to provide useful information to PG&E field personnel regarding the pipe failure in Segment 180 of Line 132.³¹
8. PG&E's Emergency Response Plans were difficult to use and out of date, thus contributing to PG&E's delay in responding to the incident on September 9, 2010 in a timely manner.³²

The recordkeeping issues related to PG&E's pipeline system were:

1. Prior to 1980, PG&E did not have a program in place to inspect its pipelines and plan for orderly replacement before they posed a safety risk. PG&E had records of early pipeline leaks and failures and was aware that there could be many leaks in some sections of pipeline.³³
2. In the 1980s, PG&E did not have adequate historical data about its pipeline system to populate the required data fields in its Gas Pipeline Replacement Plan. Consequently, PG&E made assumptions based on incomplete or unreliable data for variables such as pipe segment age, leak history, weld types, pressure test type, and coating type.³⁴

²⁹ Exh. CPSD-2 at 9 - 10.

³⁰ Exh. CPSD-2 at 10 - 11.

³¹ Exh. CPSD-2 at 11 - 12.

³² Exh. CPSD-2 at 12 - 15.

³³ Exh. CPSD-2 at 16 - 17.

³⁴ Exh. CPSD-2 at 17 - 22.

3. The integrity risk assessment model used in PG&E's Transmission Integrity Management Program (TIMP) to identify pipeline segments with the highest risk of failure contains data that is suspect (missing or assumed). Consequently, this model cannot be an accurate representation of the real likelihood of failure of segments.³⁵ Possibly in response to the lack of reliable historical records, PG&E changed the weighting of the variables in the TIMP model.³⁶
4. PG&E's failure to meet the data requirements of TIMP are because it failed to keep up-to-date, complete and accurate Pipeline History Files, as required under Federal Law, GO 112 and its own internal policies, not because TIMP regulations imposed new data requirements.³⁷
5. PG&E has missing or incomplete records related to facility design, construction, operations and maintenance. In particular, PG&E is missing critical data from its records systems in the following categories: 1) Pipeline History Files, 2) Job Files (including pipe mill reports and any QA/QC testing), 3) pipeline design and pressure test records, 4) weld maps and inspection reports, 5) operational history records, 6) leak records, and 7) salvaged and reused pipe records.³⁸
6. PG&E's Geographic Information System (GIS) was "populated with faulty data, including assumed and missing elements from earlier databases making it an unreliable source of data for the integrity management risk assessment models." Additionally, there was insufficient Quality Assurance/Quality Control to check for accuracy

³⁵ Exh. CPSD-2 at 22 - 25.

³⁶ Exh. CPSD-2 at 26.

³⁷ Exh. CPSD-2 at 26.

³⁸ Exh. CPSD-2 at 27.

and reasonableness of data entered from hard copy records.³⁹

7. It is difficult to review records and locate critical documents in PG&E's Enterprise Compliance Tracking System (ECTS) Database because of the size and amount of duplication in the database and inability to search by keyword.⁴⁰

On March 30, 2012, CPSD filed a supplement to the *Felts Testimony* (*Felts Supplemental Testimony*), which addressed five more recordkeeping issues, included a table that listed the violations resulting from the issues identified in the *Felts Testimony* and corrected typographical errors and minor omissions.⁴¹

Additional recordkeeping issues raised by CPSD are:

1. Two recordkeeping issues concerned video recordings from the security cameras located at the Brentwood Control Room. PG&E provided two contradictory responses regarding the existence of video recordings for September 9, 2010. PG&E's initial response, that the recordings were overwritten, would lead to the conclusion that PG&E had violated the records preservation requirements ordered by the Commission's Executive Director (and subsequently affirmed by the Commission in Resolution No. L-403) and PG&E's General Counsel. PG&E's subsequent response, that there were no video recordings because the camera had not been configured properly, would lead to the conclusion that PG&E personnel either lied about checking the Brentwood security cameras or provided false information about the existence of the video recordings.⁴²

³⁹ Exh. CPSD-2 at 47 - 48.

⁴⁰ Exh. CPSD-2 at 48.

⁴¹ The *Felts Supplemental Testimony* is Exh. CPSD-3.

⁴² Exh. CPSD-3 at 1 - 5.

2. PG&E failed to provide produce all copies of audio files and transcripts for calls recorded in the San Francisco Control Room for September 9 and 10, 2010, as requested by CPSD. Additionally, some of the transcripts prepared by PG&E contained substantive inconsistencies when compared to independent transcripts made of the same audio file recordings.⁴³
3. PG&E failed to respond to CPSD's data requests to identify all of the people present at the Milpitas Terminal who were handling the pressure problem on September 9, 2010.⁴⁴
4. PG&E was unable to provide a copy of the Verint Service Level Agreement that was in existence on September 9, 2010, saying that it could not locate the agreement. CPSD had requested this document to determine what controls were in place to access audio recordings. CPSD believes PG&E's failure to provide this agreement would suggest that PG&E had violated instructions from PG&E's General Counsel to preserve all records.⁴⁵

The alleged violations raised by the *Felts Testimony* are summarized in Table 1 below:⁴⁶

⁴³ Exh. CPSD-3 at 6 - 8.

⁴⁴ Exh. CPSD-3 at 8.

⁴⁵ Exh. CPSD-3 at 8 - 9.

⁴⁶ The table of alleged violations found in the *Felts Supplemental Testimony* was subsequently amended during cross-examination. This table represents the amended table of allegations, which is Exh. CPSD-15.

Table 1
Alleged Violations Raised in Felts Testimony

Alleged Violation	Duration
<p>1. No records for salvaged pipe installed into Segment 180</p> <p>Violation of Public Utilities Code Section 451 Potential Violation of California Public Utilities Act, Article II Sec. 13(b)</p>	<p>1951-2010 Pre 1951</p>
<p>2. Failure to create/retain construction records for 1956 project GM 136471</p> <p>Violation of Public Utilities Code Section 451</p>	<p>1956-2010</p>
<p>3. Failure to retain pressure test records for L-132, Segment 180</p> <p>Violation of Public Utilities Code Section 451 Violation of ASME Standards Section B.31.8 Violation of General Orders 112, 112A, and 112B Section 107</p>	<p>1956-2010 1955-2010 1961-1970</p>
<p>4. Lost underlying records to support MAOP of 390 on Segment 180</p> <p>Violation of Public Utilities Code Section 451 Violation of ASME Standards Section B.31.8</p>	<p>1978-2010 1977-2010</p>
<p>5. Failure to Follow Procedures to Create Clearance Record</p> <p>Violation of Public Utilities Code Section 451</p>	<p>2010</p>
<p>6. Out-of-date Operations and Maintenance instructions at Milpitas Terminal</p> <p>Violation of Public Utilities Code Section 451</p>	<p>1999-2010</p>

<p>7. Out-of-date Drawing and Diagrams of the Milpitas Terminal</p> <p>Violation of Public Utilities Code Section 451</p> <p>Violation of PG&E internal policies requiring retention of engineering records</p>	<p>2008-2010</p> <p>2008-2010</p>
<p>8. No Back-up Software at the Milpitas Terminal</p> <p>Violation of Public Utilities Code Section 451</p>	<p>1999-2010</p>
<p>9. Unsafe design of Supervisory Control And Data Acquisition System</p> <p>Violation of Public Utilities Code Section 451</p>	<p>2008-2010</p>
<p>10. Emergency Response Plans too Difficult to Use</p> <p>Violation of Public Utilities Code Section 451</p>	<p>Apr. 2010 – Sept. 2010</p>
<p>11. Operated L-132 in excess of 390 MAOP (1 day each year)</p> <p>Violation of Public Utilities Code Section 451</p>	<p>2003, 2008, 2010</p>
<p>12. Failure to Attempt to Preserve Video Recordings that PG&E Believed Was on Brentwood Camera 6</p> <p>Violation of Commission Resolution Number L-403</p> <p>Violation of Preservation Order from Commission Executive Director</p>	<p>2010-2012</p> <p>2010-2012</p>
<p>13. PG&E's Contradictory Data Responses Regarding Recorded Brentwood Camera 6 Video</p> <p>Violation of Commission Rules of Practice and Procedure Rule 1.1</p>	<p>2010, 2012 or both</p>
<p>14. PG&E's Data Responses Did Not Identify All of the People in Milpitas Handling the Pressure Problem on September 9, 2010</p> <p>Violations of Commission Rules of Practice and Procedure Rule 1.1</p>	<p>October 10 – Dec. 17, 2010</p>
<p>15. INTENTIONALLY LEFT BLANK</p>	

Alleged Violation	Duration
16. Job Files Missing and Disorganized	
Violation of Public Utilities Code Section 451	1987-2010
Violation of ASME Standards Section B.31.8	1987-2010
Violation of PG&E internal policies requiring retention of engineering records	1987-2010
17. Pipeline History Records Missing	
Violation of Public Utilities Code Section 451	1987-2010
Violation of ASME Standards Section B.31.8	1987-2010
Violation of PG&E internal policies requiring retention of engineering records	1987-2010
18. Design and Pressure Test Records Missing	
Violation of Public Utilities Code Section 451	1950-2010
Violation of California Public Utilities Act Article II Section 13(b)	1930-1951
Violation of ASME Standards Section B.31.8	1955-2010
Violation of General Orders 112, 112A, and 112B Section 107	1961-1970
Violation of PG&E internal policies requiring retention of engineering records	1964-2010
19. Weld Maps and Weld Inspection Records Missing or Incomplete	
Violation of Public Utilities Code Section 451	1951-2010
Violation of California Public Utilities Act Article II Section 13(b)	1930-1951
Violation of 49 CFR 192.241 and 192.243	1970-2010
Violation of ASME Standards Section B.31.8	1955-2010
Violation of General Orders 112, 112A, and 112B Section 107	1961-1970
20. Operating Pressure Records Missing, Incomplete or Inaccessible	
Violation of Public Utilities Code Section 451	1951-2010
Violation of California Public Utilities Act Article II Section 13(b)	1930-1951
Violation of ASME Standards Section B.31.8	1955-2010
Violation of General Orders 112, 112A, 112B, 112C, 112E Section 107	1961-2010
Violation of PG&E internal policies requiring retention of engineering records	1964-2010

21. Pre-1970 Leak Records missing, incomplete and inaccessible	
Violation of Public Utilities Code Section 451	1951-2010
Violation of California Public Utilities Act Article II Section 13(b)	1930-1951
Violation of ASME Standards Section B.31.8	1955-2010
Violation of General Orders 112, 112A, 112B, 112C, 112E Section 107	1961-2010
22. Post 1970 Leak Records incomplete and inaccessible	
Violation of Public Utilities Code Section 451	1970-2010
Violation of ASME Standards Section B.31.8	1970-2010
Violation of PG&E internal policies requiring retention of leak repair records	1994-2010
Violation of PG&E internal policy requiring retention of leak survey maps	2010
23. Records to track salvaged and reused pipe missing	
Violation of Public Utilities Code Section 451	1954-2010
Violation of PG&E internal policies requiring retention of engineering records April	1994-2010
24. Bad data in Pipeline Survey Sheets and the Geographic Information System	
Violation of Public Utilities Code Section 451	1974-2010
Violation of PG&E internal policies requiring retention of engineering records	1974-2010
25. Use of an Integrity Management Risk Model that uses inaccurate data	
Violation of Public Utilities Code Section 451	2004-2010
26. 1988 weld failure – no Failure Report	
Violation of Public Utilities Code Section 451	1998-2010
27. 1963 weld failure – no Failure Report	
Violation of Public Utilities Code Section 451	1963-2010

CPSD's second report, titled *Records Management within the Gas Transmission Division of Pacific Gas and Electric Company prior to the Natural Gas*

Transmission Pipeline Rupture and Fire, San Bruno, California September 9, 2010, was prepared by Dr. Paul Duller and Mrs. Allison North (*Duller/North Report*).⁴⁷ The *Duller/North Report* focused on “organization, access, storage, preservation, and retention of Gas Transmission records and related documentation”⁴⁸ and used the “Generally Accepted Record-keeping Principles” (GARP) and the Information Maturity Model as the basis for its assessment of PG&E’s records and management activities.⁴⁹ The *Duller/North Report* identified the following deficiencies in PG&E’s recordkeeping practices:

lack of a company-wide strategy for record keeping; poor implementation of records management standard practices; inappropriate disposal of Pipeline History Files; inadequate management and control of job folders; poor metadata quality control; and the uncontrolled distribution, duplication and storage of pipeline-related job folders.⁵⁰

The *Duller/North Report* identified the following issues of concern:

1. With respect to PG&E’s records management strategy:
 - a. PG&E appeared to have a decentralized records management structure and there was no apparent company-wide strategy for managing records.⁵¹
 - b. There was no individual in the Gas Transmission Division who had formal responsibility for records management activities.⁵²

⁴⁷ The Duller/North Report is Exh. CPSD-6.

⁴⁸ Exh. CPSD-6 at 1-7.

⁴⁹ Exh. CPSD-6 at 1-8.

⁵⁰ Exh. CPSD-6 at 6-25.

⁵¹ Exh. CPSD-6 at 6-26 – 6-27.

⁵² Exh. CPSD-6 at 6-27 – 6-28.

- c. There was a disconnect between what was listed in PG&E's Standard Practices and the records the Gas Transmission Division was required to maintain to deliver a compliant records management program.⁵³
 - d. PG&E does not have an infrastructure to provide staff with education and training in records management practices, including retention and disposal.⁵⁴
- 2. With respect to PG&E's recordkeeping policies, standards and procedures:
 - a. PG&E did not have a consistent framework of policies, standards and procedures for managing records across the organization.⁵⁵
 - b. There was evidence to support the conclusion that PG&E's Standard Practice Document 210-4-4 on records retention was not consistently followed. As a result, there is a difference in the completeness and consistency in the records maintained at each field office.⁵⁶
 - c. Some of PG&E's internal record retention requirements do not require PG&E to retain certain records as long as the applicable regulatory requirements. Examples included retention of leak survey maps, line patrol reports, line inspection reports, gas high pressure test records and transmission line inspections.⁵⁷
 - d. Although PG&E personnel appeared to be aware of the regulations and standard practices regarding the retention period for specific types of documents, these

⁵³ Exh. CPSD-6 at 6-29 – 6-30.

⁵⁴ Exh. CPSD-6 at 6-30 – 6-31.

⁵⁵ Exh. CPSD-6 at 6-32.

⁵⁶ Exh. CPSD-6 at 6-32 – 6-33.

⁵⁷ Exh. CPSD-6 at 6-34.

regulations and practices were not systematically applied in the Gas Transmission Division.⁵⁸

3. PG&E did not have the necessary records management processes in place to ensure that its records were traceable, verifiable, complete and accurate. Because PG&E did not have the processes in place to maintain the integrity of its pipeline-related records, gas transmission pipeline information was not available in a timely manner.⁵⁹
4. Prior to the San Bruno explosion, PG&E did not have a single, central document storage facility that held a complete and comprehensive collection of all pipeline-related Job Files and folders. Rather, records on a single job could be held at more than one PG&E office. Further, despite PG&E's decentralized approach for document storage, there was no comprehensive index of all historical pipeline records. Consequently, there may be copies of the same job folder in more than one location with the possibility that each one of these folders contained different records.⁶⁰
5. PG&E utilizes multiple electronic records storage systems to manage its documents and store information. However, these systems have data integrity (accuracy and completeness) issues associated with them, are not well integrated and may contain duplicate information. Among other things, CPSD notes that PG&E's electronic systems contain inaccurate class location information (GIS), do not allow efficient retrieval of information (ECTS and IGIS) and are not complete or comprehensive (IGIS).⁶¹

⁵⁸ Exh. CPSD-6 at 6-37 – 6-38.

⁵⁹ Exh. CPSD-6 at 6-40 – 6-68.

⁶⁰ Exh. CPSD-6 at 6-69 – 6-82.

⁶¹ Exh. CPSD-6 at 6-83 – 6-90. GIS is the Geographical Information System, which provides information on PG&E's gas assets. ECTS is the Enterprise Compliance Tracking System, which was developed after the San Bruno explosion, to provide compliance and regulatory support for

Footnote continued on next page

The *Duller/North Report* applied the above findings to the GARP Principles and the Information Maturity Model and found that “PG&E’s record management activities in the Gas Transmission Division prior to the San Bruno pipeline rupture and fire have been ‘substandard’.”⁶²

As a result of deficiencies identified in its analysis, the *Duller/North Report* concluded:

PG&E’s historical pipeline records would not have been readily available, traceable, verifiable or complete; there was no single source of trusted pipeline-related documents; records management was not optimized to support operations, decision making, planning or safety; and inconsistent, incomplete and out of date information would have been present in a significant number of its pipeline related job folders, as well as those systems, such as the GIS, which relied upon them.⁶³

On March 30, 2012, CPSD filed a supplement to the *Duller/North Report*. The supplement identified the alleged general records management violations, records retention violations and other safety/pipeline integrity record violations raised by the *Duller/North Report*. Table 2 below summarizes these alleged violations:⁶⁴

PG&E’s MAOP Records Validation Project. IGIS is the Integrated Gas Information System, which was developed in 1999 to track and monitor gas leaks and their related information.

⁶² Exh. CPSD-6 at 7-93.

⁶³ Exh. CPSD-6 at 6-25.

⁶⁴ The table of alleged violations found in the *Duller/North Report* was subsequently amended during cross-examination. This table represents the amended table of allegations, which is Exh. CPSD-16.

Table 2**Alleged Violations Raised in Duller/North Testimony**

A. GENERAL RECORDS MANAGEMENT VIOLATIONS	
1. PG&E's Gas Transmission Division lacked the necessary accurate and locatable records essential for safe pipeline operation, due to sub-standard records management practices. PG&E did not have all of the necessary processes in place to ensure that traceable, verifiable, complete and accurate gas transmission pipeline records and related information was available in a timely manner. Gas transmission pipeline records were widely distributed and poorly controlled across the Division. This led to inefficient and unsafe working practices.	
Alleged Violation	Duration
ASME B 31.8	1955 – Sept. 2010
49 CFR, Section 192.709	Aug. 1970 – Sept 2010
General Orders 112, 112A, and 112B Section 107	1961 - 1970
Public Utilities Code Section 451	1955 – Sept. 2010
B. RECORDS RETENTION VIOLATIONS	
1. PG&E's minimal compliance with some of its own retention policies regarding leak survey maps violates other requirements.	
Alleged Violation	Duration
49 CFR, Section 192.709	Apr. 2010 – Sept. 2010
Public Utilities Code Section 451	Apr. 2010 – Sept. 2010
2. PG&E's minimal compliance with some of its own line patrol report retention policies violates other requirements.	
Alleged Violation	Duration
ASME B 31.8	Sept. 1964 – Sept. 2010
49 CFR, Section 192.709	Aug. 1970 – Apr. 2010
General Orders 112, 112A, and 112B Section 107	Sept. 1964 - 1970

Public Utilities Code Section 451	Sept. 1964 – Sept. 2010
3. PG&E's minimal compliance with some of its own line inspection report retention requirements violates other requirements.	
Alleged Violation	Duration
ASME B 31.8	1994 – Sept. 2010
49 CFR, Section 192.709	1994 – Apr. 2010
Public Utilities Code Section 451	1994 – Sept. 2010
4. PG&E's minimal compliance with some of its gas high pressure test record retention policies violates other requirements.	
Alleged Violation	Duration
ASME B 31.8	1994 – Apr. 2010
49 CFR, Section 192.709	1994 – Apr. 2010
Public Utilities Code Section 451	1994 – Apr. 2010
5. PG&E's minimal compliance with some of its record retention policies of transmission line inspections, including patrol maintenance reports, trouble reports and line logs violates other requirements.	
Alleged Violation	Duration
ASME B 31.8	Sept. 1964 – Apr. 2010
49 CFR, Section 192.709	Aug. 1970 – June 1996
General Orders 112, 112A, and 112B Section 107	Sept. 1964 - 1970
Public Utilities Code Section 451	Sept. 1964 – Apr. 2010
6. At all times between 1955 and 2010, PG&E was aware of the requirement to retain and maintain certain documents for various lengths of time but failed to implement their practices fully.	
Alleged Violation	Duration
ASME B 31.8	1955 – Sept. 2010

49 CFR, Section 192.13(c)	Aug. 1970 – Sept. 2010
General Orders 112, 112A, and 112B Section 107	1961 - 1970
Public Utilities Code Section 451	1955 – Sept. 2010
C. OTHER PIPELINE SAFETY VIOLATIONS	
1. In 2007, PG&E was informed that in 1995 it selected the wrong year as the upper limit for its Gas Pipeline Replacement Program (1947 rather than 1948) and for assessing the excavation threat to PG&E's gas transmission pipelines. As a result both line 132 and line 151 were excluded from PG&E's 1995 Gas Pipeline Replacement Program. If line 132 had been included in this program and replaced the San Bruno rupture and fire could have been avoided.	
Alleged Violation	Duration
Public Utilities Code Section 451	1995 – Sept. 2010
2. PG&E's lack of the necessary accurate and readily locatable gas transmission line records meant that it was unable to precisely identify which of its pipelines were more prone to extensive damage during some earthquakes and thereby ensure safe pipeline operation.	
Alleged Violation	Duration
ASME B 31.8	1992 – Sept. 2010
Public Utilities Code Section 451	1992 – Sept. 2010
3. PG&E failed to maintain a definitive, complete and readily accessible database of all gas leaks for their pipeline system as it failed to migrate all historical leak information from system to system. The incompleteness of critical leak information has contributed to diminished PG&E pipeline safety.	
Alleged Violation	Duration
General Orders 112, 112A, and 112B Section 107	1961 - 1970
ASME Standard B.31.8	1955 – Sept. 2010
49 CFR, Section 192.709	Aug. 1970 – Sept. 2010
Public Utilities Code Section 451	1955 – Sept. 2010

4. Applicable Laws, Regulations, and Standards

4.1. Public Utilities Code § 451

Many of the alleged violations raised by CPSD are based on Pub. Util. Code § 451 or its predecessor, California Public Utilities Act, Article II Sec. 13(b). Section 451 was enacted in 1951 and states, in relevant part:

Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities, including telephone facilities, as defined in Section 54.1 of the Civil Code, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.

Similarly, California Public Utilities Act, Article II Sec. 13(b), which was in effect from 1911 to 1951, required that

Every public utility shall furnish, provide and maintain such service, instrumentalities, equipment and facilities as shall promote the safety, health, comfort and convenience of its patrons, employees and the public.

PG&E has raised the issue of whether CPSD may allege violations under Pub. Util. Code § 451 in its briefs. This issue is discussed in more detail in Section 5.3 below.

4.2. ASME B.31.8

In 1935, the American Society of Mechanical Engineers (ASME) published the American Tentative Standard Code for Pressure Piping, which set industry standards for gas transmission operators. In 1955, ASME published ASME B.31.1.8,⁶⁵ which substantially revised the 1935 standard. Among other things, ASME B.31.8 established requirements for testing of pipeline prior to operation

⁶⁵ ASME B.31.1.8 (1955) is now known as ASME B.31.8. Unless otherwise specified, all references to ASME B.31.8 in this decision are to the 1955 version. A copy of the 1955 version of ASME B.31.8 may be found in Exh. PG&E-47.

(air, gas or hydrostatic) and required an operator to maintain test records for the operational life of the asset.

ASME B.31.8 also included specific record-keeping requirements associated with the design, installation, operations and maintenance of transmission pipeline systems. These include:

ASME B.31.8 § 841.1 - Specifies the test requirements to prove the strength of newly installed transmission pipelines to operate at above 30% of its specified minimum yield strength (SMYS).

ASME B.31.8 § 841.417 - Requires the operating company “maintain in its file for the useful life of each pipeline and main, records showing the type of fluid used for its test and the test pressure.”

ASME B.31.8 § 845.23 - Requires an operator to review its records concerning the design, previous testing of the pipeline, field inspections, maintenance, repairs, replacements or alterations before it increases the MAOP of a high-pressure distribution pipeline above 30% SMYS.

ASME B.31.8 § 851.4 - Requires records made of each pipeline inspection for external or internal corrosion.

ASME B.31.8 § 851.5 - Requires records made covering all leaks discovered and repairs made. This section further requires that “[t]hese records along with leakage survey records, line patrol records and other records relating to routine or unusual inspections should be kept in the file of the operating company involved, as long as the section of line involved remains in service.”

Although compliance with ASME B.31.8 was not required, PG&E stated that it voluntarily followed these industry standards.⁶⁶

⁶⁶ Exh. PG&E-4 at 4. PG&E further notes that some of its former employees were members of the ASME B.31.1.8 subcommittee. (Pacific Gas and Electric Company Response, April 18, 2011, Ch. 1 at 1-5.)

4.3. General Order 112

In 1959, the Commission opened a proceeding to determine, among other things, whether to adopt a General Order governing the design, construction and operation of gas transmission pipeline systems. On December 28, 1960, the Commission issued Decision 61269, which adopted General Order 112 (GO 112), *Rules Governing Design, Construction, Testing, Maintenance and Operations of Utility Gas Transmission and Distribution Piping Systems*.⁶⁷ GO 112 incorporated, unless specifically excluded, the standards contained in the 1958 version of ASME

B.31.8. Specifically, GO 112 § 107 stated:

§ 107.1 Gas transmission and distribution facilities shall be constructed and operated in compliance with the provisions of Section 8 of the American Standard Code for Pressure Piping, known as the American Standard Code for Gas Transmission and Distribution Piping Systems, ASA B 31.8 – 1958, and in compliance with the further requirements of the additional rules herein prescribed.

§ 107.2 Where there is any conflict between the provisions of ASA B 31.8 – 1958 and any rule specifically set forth herein, the latter shall govern, and ASA B 31.8 – 1958 shall be deemed to have been modified, amended, or revised to comply with the provisions of Chapter II of this Order.

§ 107.3 For the purpose of complying with the rules herein adopted and prescribed, gas companies shall be governed by the provisions of ASA B 31.8 – 1958 and any other codes, standards or specifications contained therein, in so far as any such codes are herein made applicable, which were in effect on January 1, 1959, and shall not be governed by any deletions, additions, revisions, or amendments thereof, made after said date, unless and until said deletions, additions,

⁶⁷ Exh. PG&E-4. Pursuant to D61269, GO 112 was effective July 1, 1961.

revisions and amendments have been authorized by the Commission.

§ 107.4 Anything contained in ASA B 31.8 – 1959 to the contrary notwithstanding, there shall be no deviation from this General Order except after authorization by the Commission.⁶⁸

GO 112 also contained a specific section on records.⁶⁹ In adopting GO 112, the Commission noted:

Public utilities serving or transmitting gas bear a great responsibility to the public respecting the safety of their facilities and operating practices.

It is recognized that no code of safety rules, no matter how carefully and well prepared can be relied upon to guarantee complete freedom from accidents. Moreover, the promulgation of precautionary safety rules does not remove or minimize the primary obligation and responsibility of [gas utilities] to provide safe service and facilities in their gas operations. Officers and employees of the [gas utilities] must continue to be ever conscious of the importance of safe operating practices and facilities and of their obligation to the public in that respect.⁷⁰

In 1963, and again in 1964, GO 112 was updated to reflect changes to ASME B.31.8.⁷¹ However, there was no change in Chapter III regarding records. In 1970, the Commission adopted the minimum Federal Pipeline Safety Standards (49 CFR Part 192), as well as some additional state requirements, in

⁶⁸ Exh. PG&E-4 (GO 112 § 107).

⁶⁹ Exh. PG&E-4 (GO 112, Chapter III).

⁷⁰ Exh. PG&E-4 at 12 (Findings and Conclusions No. 7 & 8).

⁷¹ See Exh. CPSD-36A (D.66399, with GO 112-A attached); Exh. CPSD-60 (D.73223, with GO 112-B attached).

GO 112-C.⁷² Among other things, Subpart B of Section I retained the recordkeeping requirements.⁷³ Sections 107.1 – 107.3 regarding compliance with the ASME standards were no longer applicable and deleted “because G.O. 112-C incorporates the Minimum Federal Safety Standards.”⁷⁴

Between 1971 and 1977, GO 112-C was modified to reflect changes in various provisions of 49 CFR Part 192. In 1979, the Commission issued D.90372, which adopted GO 112-D.⁷⁵ Between 1972 and 1995, the Commission regularly updated GO 112-D to stay current with revisions to 49 CFR Part 192. In 1995, the Commission issued D.95-08-053, as modified by D.95-12-065, which adopted GO 112-E.⁷⁶ GO 112-E included a new section, 104.1, that automatically incorporated any revisions to the Federal Pipeline Safety Standards, 49 CFR Parts 190, 191, 192, 193 and 199. Further, GO 112-E provides:

§ 101.4 – The utilities shall maintain the necessary records to ensure compliance with these rules and the Federal Pipeline Safety Regulations, 49 CFR, that are applicable. Such records shall be available for inspection at all times by the Commission or Commission Staff.

§ 103.3 – Compliance with these rules is not intended to relieve a utility from any statutory requirements.

4.4. Federal Recordkeeping Requirements

In 1970, the Office of Pipeline Safety (OPS) promulgated rules regarding the minimum federal safety standards. These rules, found at Title 49 CFR

⁷² Exh. PG&E-5 (D.78513, with GO 112-C attached).

⁷³ Exh. PG&E-5 (GO 112-C §§ 121-123).

⁷⁴ Exh. PG&E-5 at 5.

⁷⁵ 1979 Cal PUC LEXIS 556.

⁷⁶ Exh. PG&E-7.

include reporting requirements (Part 191) and design, construction, operation and maintenance of natural gas pipeline facilities (Part 192).⁷⁷ Reporting requirements in Part 191 include incident reports (49 C.R.F. § 191.15), annual reports (49 CFR 191.17) and reports on safety-related conditions, such as cracks or other material defects, malfunction or operating error or leaks (49 CFR 191.23). Recordkeeping requirements contained in Part 192 include:

49 CFR 192.517(a) - Requires records for strength tests for steel pipeline operating at 30% or more of SMYS (49 CFR 192.505) or at less than 30% SMYS and at or above 100 p.s.i. (49 CFR 192.507) be retained for the useful life of the pipeline. This section also specifies the minimum information that must be included in the test records.

49 CFR 192.709 - Requires:

- (a) Records concerning the date, location, and description of each repair made to pipe must be retained for as long as the pipe remains in service.
- (b) Records concerning the date, location, and description of each repair made to parts of the pipeline system other than pipe must be retained for at least 5 years.
- (c) A record of each patrol, survey, inspection, and test required by subparts L (Operations) and M (Maintenance) of Part 192 must be retained for at least 5 years or until the next patrol, survey, inspection, or test is completed, whichever is longer.

In addition to these recordkeeping requirements, 49 CFR 192.13(c) is a general requirement for operators to “maintain, modify as appropriate, and follow the plans, procedures and programs that it is required to establish” under

⁷⁷ These rules became effective on November 12, 1970. (Exh. PG&E-5 at 3.)

49 CFR 192. These would include procedural manuals for operations, maintenance and emergencies (49 CFR 192.605); studies associated with changes in class location (49 CFR 192.609); procedures for continuing surveillance (49 CFR 192.603); emergency plans (49 CFR 192.615); patrol program (49 CFR 192.705); and integrity management program (49 CFR 192.901 et seq).

4.5. PG&E Standard Practices

In addition to the statutory and regulatory requirements for recordkeeping, PG&E had its own internal policies and practices concerning the acquisition, maintenance and retention of records. PG&E states that its record retention obligations “stem from various regulatory sources: PHMSA regulations, FERC regulations, FPC regulations, and commission regulations adopting or incorporating the federal regulations.”⁷⁸ Attachment 2A of *PG&E’s June 20, 2011 Response* includes a summary of the various PG&E record retention and disposal policies and practices between 1955 and 2010.

PG&E identifies the following as its primary retention policies as of August 2010, or immediately thereafter.

⁷⁸ *Pacific Gas and Electric Company’s Response (PG&E’s June 20, 2011 Response)*, filed June 20, 2011 at 2A-5.

Table 3

**PG&E Primary Policies Associated With Record Retention Periods for
Gas Transmission Pipeline⁷⁹**

Document Date	Title	Attachment P2#
10/01/2008	Utility Standard Practice (USP) 4, Record Retention and Disposal ⁸⁰	P2-228
05/22/2008	Guide to Record Retention	P2-227
04/16/2010	Records Retention and Disposal Guidance for Transmission & Distribution Systems	P2-230
10/01/2010	GOV-7001S: Record Retention and Disposal Standard	P2-233

PG&E further states that the retention policies applicable to certain categories of records identified in the OII are as follows:

As-built drawings, documents and photos – Starting in 1961 with the adoption of GO 112, and in 1970 with the adoption of the federal code, PG&E’s retention policies have required these documents be retained for the life of the pipeline.⁸¹

Pipe specifications – PG&E’s policies have required pipe specification information generally be retained for the life of the pipeline, as required by federal regulations. However, “[p]re-existing pipeline facilities were exempt from construction, design and initial testing requirements when regulations were first introduced.”⁸²

Operating history of the pipe, including but not limited to pressure – PG&E states that 49 CFR 192.603(b) does not specify a retention period for operating pressure records and

⁷⁹ PG&E’s June 20, 2011 Response at 2A-5 (Table 2A-1).

⁸⁰ USP 4 was rescinded on October 1, 2010 with the publication of GOV-7001S. (P2-233.pdf at 7.)

⁸¹ PG&E’s June 20, 2011 Response at 2A-6.

⁸² PG&E’s June 20, 2011 Response at 2A-6.

other similar records (e.g., operator logs). PG&E states that its internal policies therefore set the retention periods.⁸³

Maintenance and repair history – PG&E’s internal policies set retention periods consistent with the pertinent sections of 49 CFR 192, subpart M (Maintenance). These include:

- Records of repairs made to a segment of pipe is retained for as long as the pipe segment remains in service.
- Repair records for non-pipe components are retained for at least five years.
- Records related to patrols, surveys, inspections, and tests required by subparts L and M of Part 192 are retained for five years, or until the next patrol, survey, inspection or test is completed, whichever is longer.⁸⁴

Risk Assessment – PG&E retains records produced in connection with its integrity management process for the useful life of the pipeline, as required under 49 CFR 192, Subpart O (Gas Transmission Pipeline Integrity Management).⁸⁵

Finally, as of 2010, PG&E’s Corporation Standard GOV-2001S, *Guidance Documents Standard Rev. 0*, issued on July 12, 2010, establishes the standards for PG&E Corporation’s and its affiliates’ and subsidiaries’ creation, review, maintenance and cancellation of all procedural guidelines and manuals.⁸⁶

⁸³ PG&E’s June 20, 2011 Response at 2A-7.

⁸⁴ PG&E’s June 20, 2011 Response at 2A-7.

⁸⁵ PG&E’s June 20, 2011 Response at 2A-7 – 2A-8.

⁸⁶ PG&E’s June 20, 2011 Response at 2A-3 – 2A-4. A copy of GOV-2001S may be found at P2-243.pdf.

5. Issues of General Applicability

5.1. Standard of Proof

It is well settled that the standard of proof in Commission investigation proceedings is by a preponderance of the evidence.⁸⁷ PG&E acknowledges that “preponderance” is the usual standard but argues that the Commission should apply the higher “clear and convincing” standard here due to the “importance of the proceeding” and the Commission’s “readiness to impose daily fines for a significant period of time.”⁸⁸

PG&E contends that a “clear and convincing” standard is required “in certain civil cases of exceptional importance” and cites two professional license suspension cases where the California courts have applied the clear and convincing standard: *Hughes v. Bd. of Architectural Examiners*, 17 Cal. 4th 763 (1998) and *Grubb v. Department of Real Estate*, 194 Cal. App. 4th 1494 (2011).⁸⁹ PG&E maintains this proceeding presents a more compelling case for requiring a higher standard of proof because CPSD has alleged multiple continuing violations spanning as many as 80 years and that a finding of even a single violation could subject PG&E to a minimum penalty of \$15 million.

Finally, PG&E contends that *Investigation re Qwest Communications Corporation (Qwest)*, D.03-01-087, also supports a heightened standard in this case. It notes that in *Qwest*, the Commission rejected an analogy between the

⁸⁷ See, e.g., *Modified Presiding Officer’s Decision Finding Tracfone Wireless, Inc. Acted Unlawfully by Failing to Pay Telecommunication user Fees and Public Purpose Program Surcharges*, D.12-02-032, at 4 (slip op.); *Opinion Ordering Penalties and Reparations [Cingular]*, D.04-09-062, at 13 (slip op.); *Final Decision [Communication Telesystems International]* (1997) 72 CPUC 2d 621, 642.

⁸⁸ PG&E Opening Brief at 21-24.

⁸⁹ PG&E Opening Brief at 21.

statutory penalties authorized by Pub. Util. Code § 2107 and punitive damages, which by statute require “clear and convincing evidence of oppression, fraud, or malice.”⁹⁰ The Commission concluded that the higher evidentiary standard for punitive damages was unwarranted because Pub. Util. Code § 2107 penalties are determined within a range and capped by the Legislature, whereas punitive damages are determined by a fact finder (judge or jury).⁹¹ PG&E contends that, unlike in *Qwest* where the total fine was driven by a large number of violations, the alleged continuing violations in this proceeding could lead to Commission discretion far beyond the statutory range that would apply to a single violation that occurred on a single day. This, PG&E argues, could effectively negate Pub. Util. Code § 2107’s penalty cap, leaving the Commission with as much discretion as a jury would have to return a large punitive damages award.⁹²

PG&E’s reliance on these cases is misplaced. Both *Hughes* and *Grubb* concern the suspension or revocation of a professional license and their grounds for concluding that a higher standard of proof was necessary are not applicable here. As stated by the *Hughes* court: “an individual, having obtained the license required to engage in a particular profession or vocation, has a ‘fundamental vested right’ to continue in that activity.”⁹³ However, revocation of PG&E’s certificate of public convenience and necessity is not a potential remedy in this proceeding.⁹⁴ Additionally, no fundamental vested right is implicated here.⁹⁵

⁹⁰ *Order Denying Rehearing of Decision No. 02-10-059* [D.03-01-087] at 8 (slip op.).

⁹¹ *Order Denying Rehearing of Decision No. 02-10-059* [D.03-01-087] at 9 (slip op.).

⁹² PG&E Opening Brief at 24.

⁹³ *Hughes v. Bd. of Architectural Examiners* (1998) 17 Cal. 4th 763, 788-789.

⁹⁴ CPSD Opening Brief at 21; CPSD Reply Brief at 9.

Moreover, the fact that the Commission may impose other appropriate relief under the law does not warrant a higher standard of proof. Indeed, none of the potential “significant non-monetary sanctions” identified by PG&E (rate reduction or requiring PG&E to bring its future behavior in line with Commission expectations) rise to the level of depriving PG&E of a fundamental right.

Equally unavailing is PG&E’s argument that our findings in *Qwest* support a finding that a small number of violations, committed over several decades, should have a higher standard of proof than a large number of violations committed a single time. Such a conclusion would effectively *reward* utilities for committing violations that could not be detected immediately and render Pub. Util. Code § 2108 meaningless.

Under Pub. Util. Code § 2108, each day’s continuance of a continuing violation is a separate and distinct offense. Thus, where an ongoing violation of many years is proven to have occurred, a large number of offenses will have occurred. However, with respect to any particular offense, the Commission has no more discretion here than it did in *Qwest*. The statutory range and cap in Pub. Util. Code § 2107 are the same. The reason the fines are potentially large here is that the alleged violations, to the extent proven, continued for decades unremediated by PG&E. PG&E itself will have been solely to blame for allowing dangerous conditions to exist and continue unabated, and PG&E will have been solely responsible for the length of time such violations continued. It would not

⁹⁵ CSB Reply Brief at 19; CCSF Reply Brief at 9-10 (noting “The courts also have not required clear and convincing evidence to suspend or revoke non- professional or occupational licenses.”).

be logical or fair to make it more difficult to prove violations against PG&E for the sole reason that PG&E allowed the violations to continue undetected for decades. PG&E's attempt to recast *Qwest* as supportive of its position therefore lacks merit.

Finally, we note that the Commission has declined to apply the clear and convincing standard even in cases where license revocation was at issue. For example, in D.05-08-033, the Commission revoked Globe Van Lines' license to operate as a household goods carrier, and in doing so applied the preponderance standard.⁹⁶ Also, in a case involving North Shuttle Service, a passenger stage corporation and charter-party carrier, one of the requested remedies (by CPSD) was possible revocation of North Shuttle's operating authority, and the Commission applied the preponderance of the evidence standard.⁹⁷

For the reasons discussed above, PG&E's arguments for application of the clear and convincing standard of proof are not persuasive and are therefore rejected.

5.2. Burden of Proof

CPSD acknowledges that generally in an enforcement proceeding, it has the burden of proving a violation. However, it argues that it should not bear the burden in this proceeding. CPSD asserts that, as a result of PG&E's recordkeeping failure, the Commission must shift the burden of proof onto PG&E or draw an inference adverse to PG&E, effectively placing the burden on

⁹⁶ *Investigation into Globe Van Lines Inc.* (D.05-08-033) (2005) at 10 (*slip op.*).

⁹⁷ *Investigation into North Shuttle Service Inc.* (D.98-05-019) (1998) 80 CPUC 2d 223, 232.

PG&E to prove that it has maintained its natural gas transmission pipelines in accordance with applicable codes, rules, and regulations.⁹⁸

PG&E, on the other hand, asserts that the burden of proof rests with CPSD and that CPSD improperly seeks to have the Commission draw broad inferences from the absence of information.⁹⁹ As an example, PG&E notes that CPSD witness Felts could not substantiate when her alleged continuing violations ended, and thus had that portion of her testimony struck during evidentiary hearings.¹⁰⁰ PG&E contends

CPSD had the means and opportunity to attempt to prove violations with evidence rather than suppositions. In the case of missing or incomplete records, for instance, it could have identified a specific record that a regulation required PG&E to maintain, e.g., an operating pressure record it believed a specific regulation required to be retained, and then shown that PG&E lacked that particular record. But CPSD did not identify any specific missing or incomplete record, preferring instead to allege violations in terms of sweeping generalities, e.g., “Operating Pressure Records Missing, Incomplete or Inaccessible,” 1930 – 2010.¹⁰¹

5.2.1. CPSD’s Allegations

CPSD raises two assertions regarding burden of proof and negative inferences. First, it asserts that the doctrine of spoliation of evidence must apply to the magnitude and duration of PG&E’s recordkeeping failure. CPSD asserts that this doctrine supports a burden shift onto PG&E. Second, notwithstanding

⁹⁸ CPSD Opening Brief at 17.

⁹⁹ PG&E Opening Brief at 49.

¹⁰⁰ PG&E Opening Brief at 49.

¹⁰¹ PG&E Opening Brief at 51.

issues regarding burden of proof, CPSD asserts that an adverse inference must be drawn against PG&E for its failure to fully produce records demonstrating that it has complied with industry-accepted standards and statutory requirements. For reasons discussed below, we find that while the burden of proof remains with CPSD, it is appropriate to draw inferences that any missing or destroyed documents are unfavorable to PG&E.

5.2.1.1. Spoliation of Evidence & Burden of Proof

CPSD asserts that, while the burden of proving a violation typically falls on CPSD, this burden should be shifted to PG&E due to the degree and extent of PG&E's recordkeeping shortcomings. CPSD argues that this burden shift is justified under the doctrine of spoliation of evidence.¹⁰² PG&E does not dispute its recordkeeping shortcomings. However, PG&E asserts that the doctrine of spoliation of evidence is inapplicable under these circumstances. Further, PG&E asserts that even if the doctrine of spoliation of evidence does apply to these circumstances, a remedy consisting of a burden shifting approach constitutes procedural error.

PG&E relies on *Millenkamp v. Davisco Foods Int'l Inc. (Millenkamp)*¹⁰³ to support its assertion that the doctrine of spoliation of evidence may only apply if a party has knowledge prior to destruction that the destroyed evidence is relevant to a specific or pending litigation. PG&E acknowledges that there are missing and destroyed records. The production of these documents would certainly serve as evidence to either support or refute CPSD's allegations

¹⁰² CPSD Opening Brief at 17.

¹⁰³ See *Millenkamp v. Davisco Foods Int'l* (9th Cir. 2009) 562 F.3d 971.

regarding PG&E's alleged recordkeeping violations in this particular proceeding. However, PG&E notes these documents were not destroyed in response to this specific investigation, nor was the destruction made in response to pending litigation. Instead, PG&E asserts that the documents were lost or misplaced prior to the San Bruno fire and explosion.¹⁰⁴

PG&E notes that CPSD is not asking the Commission to find that PG&E had destroyed a particular record and to therefore draw an adverse inference from that fact. Rather, PG&E states that CPSD has improperly assumed that PG&E's records failings were so massive that there is no evidence bearing on the facts CPSD has put at issue, thus warranting a shifting of the burden of proof.¹⁰⁵ As a result, PG&E asserts, the doctrine of spoliation of evidence cannot apply.

We find PG&E's reliance on *Millenkamp* misguided. *Millenkamp* applies Idaho law, not California law, and thus is not binding authority. A review of California law finds that the doctrine of spoliation may apply when litigation was reasonably foreseeable and when there is a duty to preserve evidence. This standard is articulated in *Reeves v. MV Transportation (Reeves)*, where the California Court of Appeal defined spoliation as "the destruction or significant alteration of evidence, or the failure to preserve property for another's use as evidence in pending or *reasonably* foreseeable litigation."¹⁰⁶ Thus, in contrast to Idaho state law, California state law expands the doctrine of spoliation of evidence to include the destruction of evidence relevant to "reasonably

¹⁰⁴ PG&E Opening Brief at 11-12 (noting that certain safety recordkeeping documents have been missing for more than eighty years).

¹⁰⁵ PG&E Reply Brief at 11-13.

¹⁰⁶ *Reeves v. MV Transportation* (2010) 186 Cal. App 4th 666, 681 (emphasis added).

foreseeable litigation,” especially when there is a statutory obligation to preserve evidence.¹⁰⁷

Based on *Reeves*,¹⁰⁸ the doctrine of spoliation of evidence does, indeed, apply in this instance. PG&E has a statutory obligation to preserve records related to testing and or maintenance of its pipeline system, but is unable to produce those records as part of CPSD’s investigation. Further, these records not only ensure that PG&E operates its gas transmission pipeline system in a safe manner, but also serve to protect PG&E against future litigation should a safety-related injury occur. PG&E operates underground natural gas pipelines. Given the breadth of PG&E’s operations, it would be logical to conclude that PG&E should have reasonably foreseen some sort of future litigation resulting from the safety of something as inherently dangerous as flammable natural gas.

Although the doctrine of spoliation is applicable, traditional remedies for spoliation do not include a burden-shifting approach.¹⁰⁹ Rather, as discussed below, we consider whether it is appropriate to draw an adverse inference from the missing records.

5.2.1.2. Adverse Inference

CPSD asserts that if the Commission declines to shift the burden of proof onto PG&E, the Commission should draw an adverse inference against PG&E in reference to the missing records.¹¹⁰ PG&E does not dispute that this would be the

¹⁰⁷ *Id.* at 681-82.

¹⁰⁸ See generally *Id.*

¹⁰⁹ *Cedars-Sinai Medical Center v. Superior Court* (1998) 18 Cal. 4th at 11-13 (listing remedies for spoliation of evidence, including the application of an evidentiary inference as well as the imposition of monetary sanctions).

¹¹⁰ CPSD Opening Brief at 18-19.

appropriate remedy. “The most drastic evidentiary remedy courts impose based on a finding of spoliation is an adverse inference as to particular facts.”¹¹¹

In order to assess whether to impose an adverse inference against PG&E, we apply the three-part test articulated in *Reeves*:¹¹²

1. Did PG&E have an obligation to preserve the documents at the time they were destroyed?
2. Did PG&E destroy the documents with a “culpable state of mind”?
3. Are the missing documents relevant to CPSD’s investigation of PG&E?

As discussed below, we find that the answer to each of these questions is “yes.” As such, we agree with CPSD that an adverse inference should be drawn that the missing records are unfavorable to PG&E.

California gas pipeline operators have had an ongoing duty to ensure the safe operations of their pipeline systems since 1912. Although there were no set industry standards for testing and retention of records until the ASME B.31.8 standards were established, in 1935, Pub. Util. Code § 451 (and Article II, Section 13(b) of the Public Utilities Act before that) clearly expected pipeline operators to test their pipeline systems and maintain the necessary records. PG&E’s voluntary compliance of the ASME standards (including recordkeeping requirements) became mandatory with the adoption of GO 112. Since 1970, Federal Regulations require PG&E to keep and maintain for the life of the pipeline component various documents about pipeline repairs and to keep for

¹¹¹ PG&E Reply Brief at 13.

¹¹² 186 Cal. App 4th at 681-82.

five years or longer other specified pipeline data.¹¹³ Accordingly, there is no question that PG&E had an obligation to preserve documents relating the maintenance and operation of its pipeline system.

Next, we find that PG&E had destroyed the documents with a culpable state of mind. Although PG&E asserts that it did not deliberately destroy documents that it was legally required to retain,¹¹⁴ it is irrelevant for this analysis whether PG&E intentionally or accidentally destroyed the records. A culpable state of mind can be satisfied by demonstrating that “the records were destroyed knowingly, even without the intent to violate [a] regulation [requiring their retention], or negligently.”¹¹⁵ In this instance, PG&E has conceded that it had “lost, transferred to another form, or discarded” documents that it was legally obligated to retain.¹¹⁶ Given PG&E’s legal duty to maintain specific safety records, PG&E’s subsequent breach of this duty, and the resulting injury to the investigation, we conclude that PG&E’s failure to maintain such important safety recordkeeping documents would be considered negligent at best.¹¹⁷ Thus, PG&E has met the requisite culpable state of mind.

PG&E has also effectively situated itself into a position in which its failure to produce the requested safety recordkeeping documents denies CPSD the evidence necessary to prove facts at issue. As CPSD notes:

¹¹³ See 49 CFR 192.709.

¹¹⁴ PG&E Reply Brief at 12.

¹¹⁵ *Reeves*, 186 Cal. App 4th at 682.

¹¹⁶ PG&E’s June 20, 2011 Response at 2A-9.

¹¹⁷ See *County of Sacramento v. Superior Court* (2012) 209 Cal. App. 4th 147 (defining negligence as a duty on the part of the defendant, a breach of duty by the defendant, and an actual and proximate cause of the injury).

The adequacy of PG&E recordkeeping is the heart of this case, not a minor or peripheral issue. ... This missing evidence – the best evidence – is indisputably relevant and its loss prejudicial to CPSD because it would have allowed CPSD to verify the actual testing and maintenance performed on PG&E’s pipeline.¹¹⁸

Consequently, the Commission “must draw the strongest allowable inferences” against PG&E.¹¹⁹

In light of the above discussion and our determination that the doctrine of spoliation applies in this instance, we agree with CPSD that PG&E’s failure to produce the records requested by CPSD concerning PG&E’s design, operation and maintenance of its gas transmission pipeline system warrants a drawing of adverse inferences. Accordingly, we infer from PG&E’s failure to produce the documents required to demonstrate safe operations and maintenance of its gas pipeline system that such documents, if produced, would serve to negatively prejudice PG&E and support CPSD.

5.2.2. PG&E’s Allegations

PG&E’s allegations regarding the burden of proof are based on what is generally required in an enforcement proceeding. However, as discussed in Section 5.2.1 above, we find that it is appropriate in this instance to draw adverse inferences with respect to the missing records. As noted by CPSD, PG&E “controlled, but could not produce the relevant evidence.”¹²⁰ Although CPSD did not specifically identify a missing document by name, PG&E, as keeper of the records, could have refuted CPSD’s alleged violations simply by

¹¹⁸ CPSD Opening Brief at 19.

¹¹⁹ See *National Ass’n of Radiation Survivors v Turnage* (1987) 115 F.R.D. 543, 557.

¹²⁰ CPSD Reply Brief at 30.

demonstrating that it had the necessary records and information to operate and maintain its transmission pipeline facilities safely.

PG&E specifically calls out that CPSD did not have evidence to prove the start or end dates of most of the alleged continuing violations. However, CPSD witnesses Duller and North explained the basis for their start and end dates.¹²¹ CPSD witness Felts also explained the basis for her start dates.¹²² Unlike witnesses Duller and North, however, Felts did not have an independent basis to support her end dates, since those dates had been supplied by CPSD's attorneys.¹²³

We find that CPSD's witnesses have sufficiently explained the starting dates of the alleged violations, with many of the starting dates based on when regulations went into effect or the installation date of pipeline. However, it is unclear whether the alleged violations have been cured. Accordingly, these violations may still be continuing. Indeed, the ALJ had noted this possibility when she struck the end dates in witness Felts' *Revised Table of Violations* (Exh. CPSD-15).¹²⁴ Therefore, based on the discussion above, PG&E has the burden of producing evidence that any violations found to be continuing offenses have either been cured or are incapable of being cured. Nonetheless, we note that at the time the Commission opened this investigation, it also opened R.11-02-019 to adopt new safety and reliability regulations for natural gas pipeline operators. Decisions issued in R.11-02-019 have required operators, including PG&E, to

¹²¹ See, generally, 4 RT at 649-658 (CPSD/Duller/North).

¹²² See, generally, 2 RT at 277-357 (CPSD/Felts).

¹²³ 2 RT at 270:5-10 (CPSD/Felts).

¹²⁴ 2 RT 277:9-10 (ALJ Yip-Kikugawa).

address their recordkeeping shortfalls. Most relevant here is *Decision Mandating Pipeline Safety Implementation Plan, Disallowing Costs, Allocating Risk of Inefficient Construction Management to Shareholders, and Requiring Ongoing Improvement in Safety Engineering (PSEP Decision)* [D.12-12-030,] which adopted a Pipeline Safety Enhancement Plan for PG&E. Among other things, the *PSEP Decision* directs PG&E to improve its recordkeeping system. Consequently, unless demonstrated in the record, the latest date we will set for a continuing violation will be December 20, 2012.

Accordingly, we find that PG&E's allegations are without merit.

5.3. Pub. Util. Code § 451

As discussed in Section 4.1 above, the applicability of Pub. Util. Code § 451, and in particular the second paragraph, is a threshold issue in this proceeding. CPSD maintains that since 1912, Pub. Util. Code § 451, and its predecessor, California Public Utilities Act, Article II, section 13(b) has established "PG&E's duty to act reasonably – to perform necessary testing and maintenance, and to maintain the necessary records for the safe operation of its natural gas pipelines."¹²⁵ Of the 37 separate violations that CPSD alleges in this proceeding, all but 3 invoke Pub. Util. Code § 451. CPSD contends that Pub. Util. Code § 451 creates a general duty for utilities to act reasonably to protect the public. "PG&E has a general duty under § 451 even though § 451 does not specifically prescribe each and every application of the duty and § 451 is not limited to the reasonableness of rates, but also defines utility obligations to the public."¹²⁶

¹²⁵ CPSD Opening Brief at 9.

¹²⁶ CPSD Opening Brief at 10.

PG&E asserts that CPSD and intervenors cannot rely on Pub. Util. Code § 451 as a basis for finding pipeline safety violations and imposing fines and penalties against PG&E. It argues that under the rules of statutory construction, Pub. Util. Code § 451 is a ratemaking provision, not a “free-floating source of pipeline safety requirements.”¹²⁷ PG&E further contends that if Pub. Util. Code § 451 mandates a “best engineering practices” standard, then other code sections and regulations are superfluous. PG&E also raises a due process argument, stating that CPSD cannot show that the Commission ever put PG&E on notice that Pub. Util. Code § 451 created a requirement to comply with a best engineering standards practice. Additionally, PG&E argues that it had no notice that its conduct would violate Pub. Util. Code § 451 since the Commission has never applied Pub. Util. Code § 451 to punish a utility for “generally shoddy gas recordkeeping practices.”¹²⁸

For the reasons discussed below, we find PG&E’s arguments to be without merit. Both the plain meaning of the language of Pub. Util. Code § 451 and well-established precedent uphold CPSD’s reliance on the statute to allege violations. PG&E has been on notice since 1909, as affirmed in the 1960 decision adopting GO 112, that it must at all times maintain safe facilities and operations.

5.3.1. Statutory Construction

In support of the argument that Pub. Util. Code § 451 is a ratemaking provision that cannot serve as a “free-floating” source of pipeline safety requirements, PG&E first notes that Pub. Util. Code § 451 appears in Chapter 3, Article 1 of the Public Utilities Act under the heading “Rates” and that all the

¹²⁷ PG&E Opening Brief at 24.

¹²⁸ PG&E Opening Brief at 33.

substantive provisions of that article address ratemaking. In contrast, PG&E observes, Chapter 4 of the Act, entitled “Regulation of Public Utilities,” contains statutory provisions that confer authority on the Commission to promulgate and enforce safety standards.¹²⁹

PG&E argues that, based on the rules of statutory construction, a code section must be construed “‘in the context of the statute as a whole and the overall statutory scheme.’”¹³⁰ PG&E also notes that “it is well established that ‘chapter and section headings [of an act] may properly be considered in determining legislative intent . . . and are entitled to considerable weight.’”¹³¹ PG&E thus argues that the statutory structure, reflected in its headings, weighs considerably against interpreting Pub. Util. Code § 451 as a free-floating safety standard.

PG&E also observes that Pub. Util. Code § 451’s only reference to safety appears in one dependent clause within a multi-paragraph provision. As framed by PG&E the first paragraph of Pub. Util. Code § 451 mandates that a utility charge just and reasonable rates, while the second paragraph specifies what level of service a utility must furnish in exchange for receiving just and reasonable rates. As such, PG&E argues that Pub. Util. Code § 451 requires a balancing of these considerations to determine “just and reasonable rates, and commensurate levels of service.”¹³²

¹²⁹ PG&E Opening Brief at 25.

¹³⁰ PG&E Opening Brief at 25 (quoting *Smith v. Superior Court* (2006) 39 Cal. 4th 77, 83).

¹³¹ PG&E’s Opening Brief at 25 (quoting *People v. Hull* (1991) 1 Cal. 4th 266, 272).

¹³² PG&E Opening Brief at 33.

PG&E's "statutory scheme" argument is not persuasive. While it is true that Chapter 4 of the Public Utilities Act is entitled "Regulation of Public Utilities," PG&E fails to point out that Chapter 3, where Pub. Util. Code § 451 resides, is entitled "Rights and Obligations of Public Utilities." It is entirely consistent with the Legislature's statutory scheme to find a utility safety obligation in Chapter 3 of the Public Utilities Act.

PG&E's attempt to frame Pub. Util. Code § 451 as a balancing of rates and service is not supported by the law. In *Pacific Bell Wireless (Cingular) v. PUC* (2006) 140 Cal.App. 4th 718, the California Court of Appeal upheld the Commission's imposition of a fine on a wireless carrier under Pub. Util. Code § 451 even though the court found that the Commission was preempted by federal law from regulating rates of wireless carriers. In other words, the court held that the Commission may find violations under the second paragraph of Pub. Util. Code § 451, even where the first paragraph is inapplicable and no balancing of rates and service is at issue.¹³³ Moreover, even under the construct described by PG&E, i.e., that Pub. Util. Code § 451 provides for a balancing of rates and other considerations that include safety, there is nothing to suggest that safety is not an absolute duty under Pub. Util. Code § 451. The fact that the safety obligation appears in an article entitled "Rates" does not diminish the significance of that obligation.

PG&E is, in effect, suggesting that any safety obligation created by Pub. Util. Code § 451 is recalibrated each time the Commission considers the setting of rates. That proposition is unsupported and a distortion of the regulatory

¹³³ *Pacific Bell Wireless (Cingular) v. PUC* 140 Cal.App. 4th at 723.

compact that PG&E finds in Pub. Util. Code § 451. Contrary to PG&E's argument, the safety obligation established by Pub. Util. Code § 451 is not a residual, variable byproduct of a particular rate level set by the Commission. To be clear, public utilities are not permitted to adopt anything other than safe operations and practices, even if they believe that rates approved by the Commission are inadequate.

Finally, we note that PG&E's efforts to apply rules of statutory construction in its efforts to characterize Pub. Util. Code § 451 as a ratemaking-only statute are misplaced. Where statutory language is clear and unambiguous, there is no need for judicial construction.¹³⁴ The text of Pub. Util. Code § 451 is unambiguous—it simply, clearly, and without qualification requires all public utilities to provide and maintain “adequate, efficient, just, and reasonable” service and facilities as are necessary for the “safety, health, comfort, and convenience” of its customers and the public. The California Courts have affirmed our interpretation that Pub. Util. Code § 451 imposes a safety requirement and that we have general and specific powers to enforce it, noting:

the commission has broad authority to determine whether the service or equipment of any public utility poses any danger to the health or safety of the public, and if so, to prescribe corrective measures and order them into effect. Every public utility is required to furnish and maintain such “service, instrumentalities, equipment and facilities ... as are necessary to promote the *safety*, health, comfort and convenience of its patrons, employees and the public.” (§ 451, italics added.) The Legislature has vested the

¹³⁴ See, e.g., *California School Employees Assn. v. Governing Board* (1994) 8 Cal. 4th 333, 340; *Ladd v. County of San Mateo* (1996) 12 Cal. 4th 913, 921; *California Fed. Savings & Loan Assn. v. City of Los Angeles* (1995) 11 Cal. 4th 342, 349.

commission with both general and specific powers to ensure that public utilities comply with that mandate.¹³⁵

Moreover, as noted by TURN, if Pub. Util. Code § 451 did not serve as a separate and individual basis for finding safety violations, as asserted by PG&E, that would mean that “prior to the effective date of GO 112 in 1961, California had no laws mandating the safe operation of gas and electric facilities – meaning that for the prior 50 years that PG&E operated gas facilities, it could engage in unsafe practices with impunity.”¹³⁶ Clearly, the Legislature would never have intended such an absurd result.

5.3.2. Alleged Redundancy Between Pub. Util. Code § 451 and Other Safety Provisions

PG&E takes the position that if Pub. Util. Code § 451 mandates a “best engineering practices” standard, as put forth by CPSD, then other code sections and regulations dealing with “any safety measure of any kind” are superfluous.¹³⁷ PG&E asserts that if CPSD’s assertions were true, it would not have been necessary to adopt GO 112 since “Section 451 already obligated California utilities to adhere to the [ASME] voluntary standards because they reflected the best engineering practices available.”¹³⁸ Furthermore, PG&E maintains that it would not have been necessary for the Legislature to incorporate a “best practices in the gas industry” standard in the “Natural Gas

¹³⁵ *San Diego Gas & Electric Co. v. Superior Court (“Covalt”)* (1993) 13 Cal. 4th 893, 924.

¹³⁶ TURN Reply Brief at 7.

¹³⁷ PG&E Opening Brief at 27 (citing *Klein v. United States* (2010) 50 Cal. 4th 68, 80).

¹³⁸ PG&E Opening Brief at 28; see also, PG&E Opening Brief at 37-39.

Pipeline Safety Act of 2011” if Pub. Util. Code § 451 already imposed that standard.¹³⁹

We find no redundancy or superfluity in the co-existence of the general, overarching safety obligation established by Pub. Util. Code § 451 and specific safety requirements such as those set forth in GO 112. In 1960, when the Commission adopted GO 112, it recognized that utilities had a pre-existing and continuing responsibility to the public to provide safe service that goes beyond GO 112 because no code of safety rules can cover every conceivable situation.¹⁴⁰ GO 112 clearly states that Pub. Util. Code § 451 continued to apply separately and independently of the new rules by specifying in Section 104.4 that “[c]ompliance with these rules is not intended to relieve a utility from any statutory requirement.” Further, as noted by TURN,

GO 112 and its successors were efforts by the Commission to establish clear “minimum requirements” for transmission pipeline safety, as much as could reasonably be expressed in a code of safety rules. Furthermore, GO 112 explicitly did not address requirements for “abnormal or unusual conditions” and did not prescribe “all details of engineering and construction.”¹⁴¹

Additionally, we disagree with PG&E’s assertions that it would not have been necessary to adopt GO 112 because the application of a “best engineering practices” standard under Pub. Util. Code § 451 would have made compliance with the ASME B.31.8 provisions mandatory. There is no question that PG&E had an obligation to safely maintain its pipeline facilities prior to the adoption of

¹³⁹ PG&E Opening Brief at 29.

¹⁴⁰ Decision (D.) 61269 (1960) 58 Cal. P.U.C. 413, 420.

¹⁴¹ TURN Reply Brief at 8.

GO 112. Regardless of whether it is characterized as “best engineering practices” or some other term, ASME B.31.8 represented the industry standard at the time. PG&E, as well as the other California gas pipeline utilities, had admitted that it voluntarily complied with ASME B.31.8.¹⁴² As noted by PG&E witness Dunn, where there is no specific requirement, a best industry practice would reflect the industry consensus of what should be done.¹⁴³ Thus, while compliance with ASME B.31.8 was relevant to assessing whether PG&E fulfilled the safety obligation under Pub. Util. Code § 451 prior to 1960, it was not a separate, complementary safety requirement until made mandatory in GO 112.

Similarly, we do not find PG&E’s arguments that it would not have been necessary to include a “best practices in the gas industry” standard in the Natural Gas Pipeline Safety Act of 2011 under CPSD’s interpretation of the safety obligation under Pub. Util. Code § 451 to be persuasive. As noted by TURN “Section 451 and the GO 112 series of regulations are complementary efforts designed to ensure that utilities promote safety in every aspect of their gas operations.”¹⁴⁴ Similarly, the Natural Gas Pipeline Safety Act serves as a complement to the general safety obligation under Pub. Util. Code § 451 by mandating the establishment of specific requirements for certain aspects of pipeline operations, such as emergency response standards (Pub. Util. Code § 956), automatic shutoff or remote-controlled sectionalized block valves (Pub.

¹⁴² Exh. PG&E-4 at 4 (noting that PG&E, Southwest Gas Corporation, San Diego Gas & Electric Company and the Pacific Lighting group had claimed that the gas utilities in California “voluntarily follow the American Standards Association (ASA) code for gas transmission and distribution piping systems.”).

¹⁴³ 9 RT at 1363:28 - 1364:8 (PG&E/Dunn).

¹⁴⁴ TURN Reply Brief at 9.

Util. Code § 957), pressure testing (Pub. Util. Code § 958) and a safety plan (Pub. Util. Code § 961).

We note that the complementary relationship between Pub. Util. Code § 451 and other, specific gas pipeline safety requirements has some parallels with the relationship between California's basic speed law¹⁴⁵ and other, specific speed laws. Just as California motorists must simultaneously observe both the basic speed law and other speed limits that may be in effect, California gas corporations must observe a basic safety law – Pub. Util. Code § 451 – and specific gas pipeline safety rules and regulations such as GO 112 and Title 49 C.F.R. The basic speed law does not render other speed limits superfluous, and Pub. Util. Code § 451 does not render other pipeline safety rules superfluous.

5.3.3. Alleged Vagueness and Lack of Notice

PG&E claims that Pub. Util. Code § 451, especially as interpreted by CPSD, is too vague to form the basis of recordkeeping violations. PG&E argues that “due process requires that laws that regulate persons or entities must give fair notice of conduct that is forbidden or required.”¹⁴⁶ PG&E relies on *Carey v. Pacific Gas and Electric Company* (D.99-04-029) 1999 Cal PUC Lexis 215 and *Pacific Bell Wireless (Cingular)v. PUC* (2006) 140 Ca. App. 4th 718 to support this argument. It notes that in *Carey*, the Commission stated that “any reasonable service obligation imposed by Section 451 was objectively ascertainable by reference to

¹⁴⁵ Vehicle Code Section 22350 states: “No person shall drive a vehicle upon a highway at a speed greater than is reasonable or prudent having due regard for weather, visibility, the traffic on, and the surface and width of, the highway, and in no event at a speed which endangers the safety of persons or property.”

¹⁴⁶ PG&E Opening Brief at 34 (citing *FCC v. Fox Televisions Stations, Inc.* (2012) 132 S. Ct. 2307, 2317).

an existing definition, standard, or common understanding.”¹⁴⁷ Similarly, PG&E notes that the *Cingular* court found that Cingular had notice because Cingular had been alerted by the marketplace (Cingular’s customers) that its conduct was not reasonable and was unlawful under Pub. Util. Code § 451.¹⁴⁸ In contrast, PG&E contends that in the course of this proceeding, CPSD has changed the standard under which PG&E’s past recordkeeping practices should be judged from “good engineering practices” to “best engineering practices.” Because CPSD articulated more than one standard, PG&E believes that it was not provided notice of what conduct would be found to be unlawful under Pub. Util. Code § 451. Additionally, PG&E argues that the Commission “has never applied Section 451 to punish a utility for what CPSD claims to have been general shoddy gas recordkeeping practices.”¹⁴⁹

We disagree with PG&E’s arguments that it had no prior notice that it could be found to have violated Pub. Util. Code § 451’s safety requirements because of deficient recordkeeping practices. GO 112 specifically put pipeline operators on notice that “the promulgation of precautionary safety rules does not remove or minimize the primary obligation and responsibility of [California pipeline operators] to provide safe service and facilities in their gas operations.”¹⁵⁰ We agree with DRA that in order to safely operate a high pressure gas pipeline system,

¹⁴⁷ PG&E Opening Brief at 30.

¹⁴⁸ PG&E Opening Brief at 32-33.

¹⁴⁹ PG&E Opening Brief at 33.

¹⁵⁰ D.61269 (Decision adopting GO 112), 58 Cal.P.U.C at 420.

PG&E needed to maintain and have readily available records regarding its gas pipeline facilities, including: their size, where they were located, when they were installed, manufacturing records, pressure test and any other test records, injury records, leak history records, inspection records, repair records, and any other records that would provide information about the history or structural condition of a gas pipeline. Thus, PG&E's obligations to maintain and operate its system safely under § 451, and common sense, dictated that PG&E would need to maintain records regarding its facilities for the life of its facilities.¹⁵¹

As noted by DRA, PG&E has been previously put on notice that its recordkeeping practices and integrity management program were deficient.¹⁵²

Moreover, it is somewhat surprising that PG&E claims that it did not know what recordkeeping practices were necessary to operate its pipeline system in a safe manner. PG&E witness Howe acknowledged that the federal regulations set the minimum requirements.¹⁵³ For example, 49 CFR 192.517 states:

- (a) Each operator shall make, and retain for the useful life of the pipeline, a record of each test performed under §§ 192.505 and 192.507. The record must contain at least the following information:
 - (1) The operator's name, the name of the operator's employee responsible for making the test, and the name of any test company used.
 - (2) Test medium used.
 - (3) Test pressure.
 - (4) Test duration.C

¹⁵¹ DRA Opening Brief at 14.

¹⁵² DRA Opening Brief at 12-13.

¹⁵³ 9 RT at 1256:21-24 (PG&E/Howe).

- (5) Pressure recording charts, or other record of pressure readings.
- (6) Elevation variations, whenever significant for the particular test.
- (7) Leaks and failures noted and their disposition.
- (b) Each operator must maintain a record of each test required by §§ 192.509, 192.511, and 192.513 for at least 5 years.

Additionally, Mr. Howe testified

I believe actually that the regulations talk about that operators should use their judgment especially considering the particular risks that they see on their system to determine how they are going to deal with those risks and what information they need to be able to deal with those risks.¹⁵⁴

It is unlikely that PG&E did not know what records it would need to meet the minimum federal requirements. Indeed, failure to retain such records would mean that PG&E was not complying with the federal regulations. Additionally, PG&E would recognize that failing to have the records necessary to operate its system safely would violate Pub. Util. Code § 451.

PG&E additionally argues that application of a “best engineering practices” standard is essentially a free-floating strict liability standard. It argues that under CPSD’s articulated standard, a pipeline would be considered unsafe any time a pipeline accident occurs, even if “the specific safety hazard may have been unforeseeable.”¹⁵⁵ However, in its discussion of PG&E’s requirement to exercise the “best engineering practices” to comply with Pub. Util. Code § 451, CPSD notes:

¹⁵⁴ 9 RT at 1265:20-27 (PG&E/Howe).

¹⁵⁵ PG&E Opening Brief at 28.

CPSD also expects PG&E to recognize when a regulation implies a requirement of good recordkeeping, although it may not explicitly mandate it. From a safety perspective, virtually all engineering data relevant to the safety of the pipelines must be maintained, regardless of whether a regulation explicitly requires it. As examples, engineers need to know the life service history of a pipe and its chemical and weld characteristics before they can make integrity management decisions on whether to replace, repair, or test each pipe. The best and often the only practical means for engineers to assess these matters is by adequate recordkeeping.¹⁵⁶

PG&E's "free floating" theory might be valid if CPSD alleged violations under Pub. Util. Code § 451 in an arbitrary or capricious manner. However, CPSD's allegations are based on assessing PG&E's compliance with federal and state regulations, ASME B.31.8, industry standards and PG&E's own standard operating procedures. These requirements, as well as the need to act reasonably, are not vague and cannot be unknown to PG&E.¹⁵⁷

Further, PG&E was well aware that its recordkeeping and integrity management programs were deficient. In 1981, the NTSB investigated a gas pipeline leak in San Francisco where PG&E took 9 hours and 10 minutes to stop the flow of gas because it could not locate one emergency valve due to inaccurate records. Bechtel advised PG&E in 1986 of the risk to its integrity management program caused by missing pipeline data, and the need for additional research to resolve these "uncertainties." The NTSB reports on the incidents in San

¹⁵⁶ Exh. CPSD-1 at 3:12-19 (CPSD/Halligan).

¹⁵⁷ As noted by DRA, "It is not a mystery, nor has it been a mystery for as long as gas utilities have existed, that pressurized natural gas is an explosive material, transporting pressurized natural gas is a highly dangerous activity, and it therefore requires a high degree of care to safely operate a high pressure gas pipeline system. (DRA Opening Brief at 14.)

Francisco in 1981 and the 2008 Rancho Cordova gas explosion both put PG&E on notice that many of its practices were deficient, unsafe, and needed to be modified. A 2009 PG&E-commissioned audit of its integrity management risk algorithm put PG&E on notice that its risk assessment methodology suffered from “significant weaknesses” causing the safety of its system to be compromised. In 2005, the Commission opened an investigation against PG&E based solely on electrical safety violations under Pub. Util. Code § 451, stating that “Section 451 requires a public utility to maintain its equipment and facilities in a safe and reliable manner. We hereby place PG&E on notice and provide an opportunity for PG&E to be heard on the issue of whether it violated section 451, and whether penalties should be imposed.”¹⁵⁸

Finally, PG&E raises an argument that it had no notice that it could be charged for deficient recordkeeping practices because no pipeline utility had previously been charged for violating Pub. Util. Code § 451 (or any other applicable statute or regulation) on those grounds. Further, PG&E notes that CPSD has audited PG&E’s facilities and records in the past without “previously raising the generalized recordkeeping violations now asserted in this enforcement action.”¹⁵⁹ We do not find these arguments to be persuasive.

PG&E has always been on notice that it is required to operate its pipeline system safely. As noted above, federal and state regulations require pipeline operators to maintain records on how the pipes were manufactured, installed,

¹⁵⁸ *Investigation on the Commission's Own Motion Into the Operations and Practices of Pacific Gas and Electric Company; Notice of Opportunity for Hearing; and Order to Show Cause Why the Commission Should Not Impose Fines and Sanctions for the December 20, 2003 PG&E Mission Substation Fire and Electric Outage Pursuant to Public Utilities Code Section 451* (I.05-03-011) at 10 (slip op.).

¹⁵⁹ PG&E Opening Brief at 33.

operated and maintained in order to operate their systems safely. While it is true that CPSD had regularly conducted audits of PG&E's gas operations in the past, there was never any representation by CPSD that these audits were a comprehensive review of PG&E's recordkeeping practices. Indeed, CPSD witness Halligan had testified that the audits only reviewed a sample of tests to check for compliance. Consequently, as CPSD notes, the fact that a particular audit had not found any violations should not be taken to mean that none existed.¹⁶⁰

The fact that CPSD had not found any recordkeeping violations in its past audits does not mean it could not allege violations in the future. Similarly, the fact that no other natural gas pipeline operators has been charged with violating of Pub. Util. Code § 451 for poor recordkeeping practices does not foreclose CPSD from charging PG&E on these grounds. Indeed, it would have been remiss of CPSD to not investigate PG&E's recordkeeping practices after the San Bruno fire and explosion brought to light deficiencies in PG&E's recordkeeping practices. Further, the California Courts have held

To govern themselves, the people act through their instrumentality which we call the State of California. The State of California functions through persons who are for the time being its officers. The failure of any of these persons to enforce any law may never estop the people to enforce that law either then or at any future time. It would be as logical to argue that the people may not proceed to convict a defendant of burglary because the sheriff perhaps saw him and failed to

¹⁶⁰ See, 1 RT at 152:5-24 (CPSD/Halligan).

stop him or arrest him for another burglary committed the night before.¹⁶¹

For the reasons discussed above, we find no merit in PG&E's assertions that it is being subjected to arbitrary or "free-floating" standards and that there is a "vagueness" problem in the way in which CPSD has applied Pub. Util. Code § 451.

5.4. Continuing Offenses

Of the 37 violations alleged by CPSD, all but 3 are alleged to have occurred over some period of time. PG&E challenges CPSD's conclusion that these alleged violations should be considered a continuing offense under Pub. Util. Code § 2108 on three grounds.¹⁶²

First, PG&E contends that each day a required record is missing cannot constitute a separate violation or a continuing violation because such an interpretation is contrary to the plain language of Pub. Util. Code § 2108. It asserts that Pub. Util. Code § 2108 applies only to violations that continue over time, not to specific instances of violations.¹⁶³ PG&E bases this assertion on the grounds that the violation was failing to preserve the record, and that the missing record is simply a "natural consequence" of the violation.¹⁶⁴

¹⁶¹ *Caminetti v. State Mut. Life Ins. Co.* (1942) 52 Cal. App. 2d 321, 326 (citations omitted); *see also*, *West Washington Properties, LLC v. Department of Transportation* (2012) 210 Cal. App. 4th 1136, 1146 ("government inaction rarely forms a proper basis to estop the government from enforcing a law intended to benefit the public.")

¹⁶² Pub. Util. Code § 2108 states "Every violation of the provisions of this part or of any part of any order, decision, decree, rule, direction, demand, or requirement of the commission, by any corporation or person is a separate and distinct offense, and in case of a continuing violation each day's continuance thereof shall be a separate and distinct offense."

¹⁶³ PG&E Opening Brief at 40.

¹⁶⁴ PG&E Opening Brief at 40.

PG&E next argues that to consider a missing record a continuing violation would also lead to absurd results. “Once a record goes missing, it rarely, if ever, can be recreated.”¹⁶⁵ Thus, the violation would continue even though PG&E was “incapable of locating the record or correcting the problem.”¹⁶⁶ PG&E argues that since curability is an “essential element of a continuing violation,” and the alleged records violations cannot be cured, CPSD cannot establish continuing violations under Pub. Util. Code § 2108.¹⁶⁷

Finally, PG&E asserts that since it is unable to cure the violation (i.e., locate the missing record), CPSD’s interpretation would mean that PG&E would be subject to a disproportionate penalty in relation to the loss of a single record.¹⁶⁸ By way of illustration, PG&E states that if it lost a leak repair record in 1930, and that loss were considered a continuing violation, PG&E would be subject to a fine of \$14.6 million to \$150 million.¹⁶⁹ PG&E contends that such a result would violate California’s Excessive Fines Clause.

We do not find these arguments to have merit. PG&E frames the violation as the loss of a single record (individual document), which would lead to a document being missing over a period of time. However, the failure to preserve a required record would mean that PG&E is missing information (e.g., pipe specifications, operating history or maintenance history) required by regulations or statute relevant to the safe operations of its transmission system. If this

¹⁶⁵ PG&E Opening Brief at 41.

¹⁶⁶ PG&E Opening Brief at 41.

¹⁶⁷ PG&E Opening Brief at 41 (citing *Strawberry Prop. Owners Assn’n v. Conlin-Strawberry Water Co., Inc.* (D.97-10-032) 1997 Cal. PUC LEXIS 954 at *9).

¹⁶⁸ PG&E Opening Brief at 42.

¹⁶⁹ PG&E Opening Brief at 42.

recordkeeping deficiency is not cured, PG&E's failure to comply with recordkeeping requirements would continue over a period of time. As PG&E is well aware, the Commission has consistently relied on Pub. Util. Code § 2108 for assessing fines for violations that have occurred for a period of time.¹⁷⁰ Thus, a recordkeeping deficiency that is not cured is properly considered a continuing violation under Pub. Util. Code § 2108.

PG&E's next argument, that the alleged violations could not be considered continuing because it was unable to cure them, is also without merit. Contrary to PG&E's assertions, neither *Conlin-Strawberry* (D.97-10-032) nor *Investigation of S. Cal Edison Co.* (D.04-04-065) interpreted Pub. Util. Code § 2108 as only applying to violations that are curable. While both decisions discuss the applicability of Pub. Util. Code § 2108 and the utility's failure to cure a violation,¹⁷¹ neither decision makes any determination whether Pub. Util. Code § 2108 can be applied when a utility has made a good faith effort to cure the violation but is unable to do so. Moreover, contrary to PG&E's representation, the alleged recordkeeping violations could be cured. As noted by CPSD, the MAOP validation and hydrotesting ordered in Decision (D.) 12-12-030 are correcting and updating PG&E's gas records.¹⁷² The fact that PG&E made no attempt to cure the record deficiencies until ordered by the Commission do not render them not curable.

¹⁷⁰ See, e.g., *Carey v. Pacific Gas & Electric Co.* [D.99-04-029] (1999) 85 Cal. P.U.C. 2d 682; *Qwest* (D.03-01-087) 2003 Cal. PUC LEXIS 67.

¹⁷¹ *Strawberry Prop. Owners Assn'n v. Conlin-Strawberry Water Co., Inc.* (D.97-10-032) 1997 Cal. PUC LEXIS 954 at *9; *Investigation of S. Cal Edison Co.* (D.04-04-065) 2004 Cal PUC LEXIS 207 at *23.

¹⁷² CPSD Reply Brief at 21 (citing *PSEP Decision* [D.12-12-030] 2012 Cal.P.U.C. LEXIS 660 at *154-155, 163-164).

Finally, PG&E's arguments concerning the magnitude of the penalty in relationship to the violation and the Excessive Fines Clause are more appropriately addressed when we consider fines and remedies. However, we note that the potential fine resulting from the continuing violations alleged here may be significant due to PG&E's failure to cure its recordkeeping deficiencies at the time it was aware they existed.

5.5. Administrative Laches

PG&E maintains CPSD is barred by the doctrine of laches from alleging any records violations that existed prior to September 9, 2010.¹⁷³ It states that while CPSD has been reviewing, auditing and examining PG&E's gas pipeline records for years, CPSD had not alleged any deficiencies in PG&E's gas recordkeeping practices until 2012. Consequently, PG&E argues that CPSD unreasonably delayed bringing forward any charges concerning PG&E's gas recordkeeping practices and that PG&E has suffered prejudice as a result of this delay.

PG&E's arguments are without merit. The public safety mandate in Pub. Util. Code § 451, as well as the recordkeeping requirements in ASME B.31.8, GO 112 and 49 CFR 192 are intended to protect the public from the inherent dangers associated with transporting gas under high pressure. PG&E has an ongoing obligation to operate its transmission pipeline system in a safe manner. To conclude that this enforcement action is barred by laches would undermine this public safety mandate. As held by the California Supreme Court, no equitable principle (such as laches) may be invoked against a governmental body

¹⁷³ PG&E Opening Brief at 43 - 44.

“where it would operate to defeat the effective operation of a policy adopted to protect the public.”¹⁷⁴

Even if the application of administrative laches were not barred as a matter of law, PG&E has failed to demonstrate that CPSD unreasonably delayed bringing forward these charges. Although PG&E correctly notes that CPSD had conducted regular audits of PG&E’s gas pipeline records, these audits “did not – was not able to look at every single issue.”¹⁷⁵ Consequently, there was no basis for CPSD to conclude or suspect that PG&E’s records were so deficient so as to create a safety concern until after the San Bruno explosion. Indeed, once the severity of these deficiencies was identified, CPSD acted promptly and initiated this proceeding within months of the San Bruno explosion.

Moreover, PG&E failed to demonstrate that it suffered prejudice as a result of CPSD’s alleged unreasonable delay in bringing forward this enforcement proceeding. To the extent that PG&E may be prejudiced because the alleged violations were not raised prior to the San Bruno explosion, that prejudice is the result of PG&E’s own failure to remedy its recordkeeping deficiencies at the time it had become aware of them. As noted previously, PG&E knew by 1984, if not earlier, that there were recordkeeping deficiencies in its gas system.¹⁷⁶

Finally “[t]he system of notices and fines that we have historically employed to accomplish that goal [to maximize the safety and reliability of the electric distribution system] balances encouragement to the utility to correct

¹⁷⁴ *Kajima/Ray Wilson v. Los Angeles County Metropolitan Transportation Authority* (2000) 23 Cal. 4th 305, 316.

¹⁷⁵ 1 RT at 152:23-24 (CPSD/Halligan).

¹⁷⁶ See Exh. CPSD-55 at 14.

violations in order to avoid fines, on the one hand, with fines for failures to act, on the other.”¹⁷⁷ To find that the doctrine of laches would serve as a bar to bringing enforcement proceedings for longstanding violations that were only recently discovered would limit the Commission’s ability to impose penalties to deter future wrongdoing. Such a result would provide no incentive to utilities to correct violations once they became aware of the violations and be contrary to the overarching objectives of Pub. Util. Code § 451 to provide safe and reliable service.

Based on the discussion above, we find that the doctrine of laches does not bar CPSD from bringing this enforcement action.

5.6. The NTSB’s “Traceable, Verifiable and Complete” Requirement

PG&E contends that the *Duller/North Report* improperly applies the “traceable, verifiable, and complete” requirement as a measure for judging the quality of all PG&E gas records and a standard in the GARP principles. PG&E notes that the NTSB had articulated the “traceable, verifiable, and complete” requirement in Safety Recommendation P-10-2 and -3 (Urgent) issued on January 3, 2011 in connection with the need for records to support PG&E’s MAOPs for class 3 and 4 locations and class 1 and 2 locations in high consequence areas.¹⁷⁸ It disputes witnesses Duller’s and North’s conclusion that these terms were implicit in the ASME standards or prior works of quality management experts. Instead, PG&E asserts that the “traceable, verifiable and complete” requirement is perceived by all operators as a new regulatory

¹⁷⁷ *In re Southern California Edison Company* [D.04-04-065] 2004 Cal. PUC LEXIS 207 at *22-23.

¹⁷⁸ PG&E Opening Brief at 58.

obligation. As such, PG&E believes that to apply this requirement to PG&E's recordkeeping activities prior to January 3, 2011 is both contrary to the record and a violation of due process.¹⁷⁹

While we agree with PG&E that the Pipeline and Hazardous Materials Safety Administration (PHMSA) used new terms to define the quality of pipeline operator's records, we disagree that PHMSA established a new recordkeeping requirement. On May 7, 2012, PHMSA issued an Advisory Bulletin to clarify the verification of records in which it stated that Advisory Bulletin 11-01, issued on January 10, 2011:

reminded operators that if they are relying on the review of design, construction, inspection, or other related data to establish MAOP and MOP, they must ensure that the record used are reliable, traceable, verifiable, and complete.¹⁸⁰

By using the word "reminded", PHMSA signaled that it was not establishing a new requirement, but rather bringing to the attention of pipeline operators the expectations for an existing requirement.

Additionally, the May 7, 2012 Advisory Bulletin clarified PHMSA's interpretation of the terms "traceable, verifiable and complete":

Traceable records are those which can be clearly linked to original information about a pipeline segment or facility. Traceable records might include pipe mill records, purchase requisition, or as-built documentation indicating minimum pipe yield strength, seam type, wall thickness and diameter. ... Verifiable records are those in which information is confirmed by other complementary, but separate, documentation. Verifiable records might include contract specifications for a

¹⁷⁹ PG&E Opening Brief at 63.

¹⁸⁰ 77 Fed. Reg. 26822 (May 7, 2012).

pressure test of a line segment complemented by pressure charts or field logs. ... Complete records are those in which the record is finalized as evidenced by a signature, date or other appropriate marking. For example, a complete pressure testing record should identify a specific segment of pipe, who conducted the test, the duration of the test, the test medium, temperatures, accurate pressure readings, and elevation information as applicable. An incomplete record might reflect that the pressure test was initiated, failed and restarted without conclusive indication of a successful test. A record that cannot be specifically linked to an individual pipe segment is not a complete record for that segment.¹⁸¹

This clarification emphasizes that pipeline operators have always had the responsibility to retain sufficient records regarding a pipeline's design, installation, testing, maintenance, and operations. PHMSA's interpretation of these terms does not impose any requirements that were not already required under 49 CFR 192.

Moreover, as noted by DRA, PG&E had a statutory obligation under Pub. Util. Code § 451 to maintain and operate its system safely well before January 3, 2011, and that obligation included "maintaining accurate, complete, and accessible records of its pipeline system."¹⁸² Additionally ASME B.31.B, GO 112 (and its subsequent revisions) and 49 CFR 192 all contained recordkeeping requirements. Thus, the requirement to maintain records that will allow for the safe operation of a pipeline system is not new, but something that has been expected at all times.

¹⁸¹ 77 Fed. Reg. 26823.

¹⁸² DRA Reply Brief at 22.

We therefore agree with CPSD that the terms “traceable, verifiable and complete” boil down to the concept that the records must be readily available and trustworthy of providing full and accurate information.”¹⁸³ There is no error or violation of due process in applying this requirement to PG&E’s recordkeeping activities prior to January 3, 2011.

5.7. The “Grandfather” Clause

The maximum allowable operating pressure (MAOP) represents the maximum pressure at which a pipeline can be operated safely. It is a fraction (i.e. less than 100%) of the pipe’s design pressure and set based on class location, with lower MAOPs in areas with higher population density (i.e., Class 3 and Class 4) or designated as high consequence areas. Although various conditions may limit the actual operating pressure of a pipeline segment (the Maximum Operating Pressure or MOP), a pipeline operator may only operate a pipeline segment up to its MAOP.

Prior to July 1, 1961 (the effective date of GO 112), pipeline operators in California voluntarily followed the ASME B.31.8 standards, which included standards for pressure testing for pipe after construction and before operation and the type of test to be performed.¹⁸⁴ ASME B.31.8 § 841.417 specified that records of these pressure tests were to be retained for the useful life of the pipeline. As of July 1, 1961, GO 112 made compliance with the ASME B.31.8 standards mandatory.¹⁸⁵ Section 209 of GO 112 also contained pressure-testing requirements applicable “only to pipelines and mains operating or intended to

¹⁸³ CPSD Reply Brief at 36-37.

¹⁸⁴ Exh. PG&E-47 (ASME B.31.8 §§ 841.411 & 841.412).

¹⁸⁵ Exh. PG&E-4 (GO 112 § 107.1).

be operated at hoop stresses of 20% or more of the specified minimum yield strength.” Additionally, Chapter III of GO 112 contained specific recordkeeping requirements.

In 1970, the Office of Pipeline Safety (OPS) promulgated rules and regulations establishing minimum federal pipeline safety standards. These rules were contained in 49 CFR Parts 191 and 192. Requirements for strength test of steel pipe to operate at a hoop stress of 30% or more of SMYS were specified in 49 CFR 192.505. Pursuant to 49 CFR 192.517, the pipeline operator was to retain a record of these tests for the useful life of the pipeline. The requirements for setting the MAOP for a pipeline was specified in 49 CFR 192.619. Subsection c of this regulation states:

The requirements on pressure restrictions in this section do not apply in the following instance. An operator may operate a segment of pipeline found to be in satisfactory condition, considering its operating and maintenance history, at the highest actual operating pressure to which the segment was subjected during the 5 years preceding the applicable date in the second column of the table in paragraph (a)(3) of this section. An operator must still comply with § 192.611.

PG&E states that this subsection, sometimes referred to as the “Grandfather Clause,” recognized that “historical operating pressure documentation might be the only records available for operators to establish MAOP, even if a pipeline had been tested according to the ASA/ASME standards in place at the time of installation.”¹⁸⁶ Thus, PG&E contends that 49 CFR 192.619(c) “‘grandfathered’ existing pipelines such as Line 132, Segment

¹⁸⁶ Exh. PG&E-61 at 1-16:13-16 (PG&E/DeLeon).

180 based on prior operating pressure history, and did not require that existing pipelines be pressure tested to establish the appropriate MAOP.”¹⁸⁷ Further, PG&E witness DeLeon asserts that since the Grandfather Clause did not require an operator to have any records before 1970 and was silent on whether an operator was required to maintain these records after 1970, an operator could destroy records for pipelines installed prior to the adoption of the federal regulations in 1970.¹⁸⁸

Both CPSD and CCSF dispute PG&E’s assertions. CPSD notes that the Commission had previously considered and rejected PG&E’s argument that it had no obligation to maintain accurate and accessible records of the components of its natural gas transmission system because the Grandfather Clause did not require these records. It cites the *PSEP Decision*, where the Commission stated:

To comply with [49 CFR 619(c)], a natural gas system operator must undertake four separate affirmative obligations:

1. Examine and determine that the pipeline segment is in satisfactory condition;
2. Obtain and evaluate its operating history;
3. Obtain and evaluate its maintenance history; and
4. Determine the highest actual operating pressure during the five year period.

No natural gas system operator can comply with these requirements without creating and preserving accurate and reliable system installation, operating, and maintenance records.

¹⁸⁷ PG&E Opening Brief at 20.

¹⁸⁸ See, e.g., 5 RT at 735:22-23 (“you don’t have to keep the records of pipelines built before 1970”); 5 RT at 775:12-13 (“So I would say that yes, they could destroy [the records] since you don’t have to have it.”); see, also, 5 RT at 809:5 – 810:16 (concluding that GO 112 relieved operators from retaining records for pipeline installed prior to 1961).

Thus, we find that PG&E has failed to demonstrate that long-standing regulations excuse incomplete and inaccurate natural gas system record-keeping.¹⁸⁹

CCSF similarly disputes PG&E's assertions, asserting that the Grandfather Clause "is based on the assumption that an operator had records of its pipeline materials as well as pressure test records to validate the historic MAOP, and the fact that the Department of Transportation could not determine that the historic pressures were unsafe."¹⁹⁰ CCSF asserts that the DOT allowed grandfathered pressures because it assumed the pipelines that would operate pursuant to the grandfather clause would primarily be those pipelines that:

- had been installed from 1935 to 1951; and
- either applied lower class location design factors than the industry applied since 1952 up until the 1968, or
- only been tested to 50 psi above the MAOP.¹⁹¹

CCSF further contends that "setting the MAOP for a pipeline is distinct from the recordkeeping obligation associated with the pipeline."¹⁹² As CCSF witness Garwonski testified:

when the grandfather provision was enacted it was intended to avoid having to *re-test* lines that did not meet current class location design limits or had only been tested to 50 psi above MAOP. It was not intended to be used as *carte blanche* for operators lacking important pipeline records.¹⁹³

¹⁸⁹ *PSEP Decision* (D.12-12-030) 2012 Cal.P.U.C. LEXIS 660 at *168-169.

¹⁹⁰ Exh. CCSF-4 (Garwonski) at 6:21-24.

¹⁹¹ CCSF Opening Brief at 25 (citing 35 Federal Register 13248 (August 19, 1970)).

¹⁹² CCSF Opening Brief at 23.

¹⁹³ Exh. CCSF-4 (Garwonski) at 9:10-13.

We agree with CPSD and CCSF that the Grandfather Clause cannot, and should not, be interpreted as relieving pipeline operators from maintaining, and retaining, records necessary for the operation and maintenance of pipelines installed prior to 1971. Nothing in 35 Federal Register 13248 or 49 CFR 192.619 suggests that existing pipeline records are no longer to be retained. Indeed, 49 CFR 192.619(c) states in the first sentence “The requirements on pressure restrictions in this section do not apply in the following instance.” Thus, any exemption provided under this subsection is limited to the setting of MAOP, and does not excuse an operator from complying with the recordkeeping requirements in the Federal Regulations, GO 112 or Pub. Util. Code § 451.

Further, the language in the Grandfather Clause takes into consideration the operating and maintenance history of the pipeline segment in determining whether pressure testing under 49 CFR 192.619(a) did not need to be performed. This, along with the recordkeeping requirements contained in other sections of 49 CFR 192, lead us to conclude that pipeline operators were still required to retain pipeline design, construction, operating history, material and component records, as well as pressure test records for pipelines installed prior to 1971.

While the Grandfather Clause provided an exception for those situations where an operator did not have complete records to confirm the MAOP of pipeline installed prior to 1970, we find no basis to conclude that this subsection exempted operators from the recordkeeping requirements mandated under ASME B.31.8, 49 CFR 192, or GO 112-E and its predecessors. Accordingly, this provision cannot be used to support a theory that an operator was not required to maintain, or retain, detailed pipeline records or to justify destruction of

records for pipelines installed prior to 1970.¹⁹⁴ Thus, in those instances where PG&E has set MAOP based on the Grandfather Clause, we consider whether it had sufficient records of the pipeline's operating and maintenance history to do so without additional testing.

5.8. Independent Monitor

DRA notes that the *Report of the Independent Review Panel San Bruno Explosion (IRP Report)* found many weaknesses related to PG&E's recordkeeping practices and quality assurance.¹⁹⁵ It argues that the *IRP Report* leads to the conclusion that PG&E "never had a gas safety culture, systematic and effective record retention and integration policies, or quality assurance or risk assessment mechanisms in place to ensure the safe operation of a high pressure gas transmission pipeline system."¹⁹⁶ As such, DRA urges the Commission to employ independent monitors to oversee and monitor PG&E's work testing and replacing its gas transmission system and updating its records with accurate information.

DRA's proposal does not address alleged violations, but rather proposes a remedy. As such, this proposal is more appropriately considered at the time we address fines and remedies. Indeed, DRA has included the appointment of an

¹⁹⁴ PG&E witness DeLeon may be correct that it makes sense for private consulting firms or PHMSA to destroy records because "there's a lot of paper" or there are "too many records." (5 RT at 776:7-15 & 812:10-17.) However, neither of these entities operates a high pressure gas transmission line and, thus, it is not appropriate to extend this line of reasoning to gas pipeline operators.

¹⁹⁵ DRA Opening Brief at 22. The IRP Report may be found at <http://www.cpuc.ca.gov/NR/rdonlyres/85E17CDA-7CE2-4D2D-93BA-B95D25CF98B2/0/cpucfinalreportrevised62411.pdf>.

¹⁹⁶ DRA Opening Brief at 23.

independent third party as part of its briefs concerning fines and remedies.¹⁹⁷

Further the OII states:

If, after hearings, the Commission were to find that management practices and policies contributed towards recordkeeping violations of law that adversely affected safety, the Commission would have an obligation to consider the imposition of statutory penalties pursuant to Section 2107 of the California Public Utilities Code, and other appropriate relief under the law.¹⁹⁸

Accordingly, we consider whether appointment of an independent third party is an appropriate remedy in our subsequent decision on fines and remedies.

5.9. Pub. Util. Code § 463

Both DRA and TURN note the relationship between the Pipeline OIIs and R.11-02-019. They note that in the *PSEP Decision*, the Commission approved cost recovery and associated rate increases for the first phase of PG&E's Pipeline Safety Enhancement Program (PSEP). However, these rate increases were subject to refund based on adjustments adopted in the Pipeline OIIs.¹⁹⁹

DRA maintains that in addition to Pub. Util. Code § 451, Pub. Util. Code § 463 "requires the Commission to disallow direct and indirect expenses when they are related to the unreasonable errors or omissions of a utility and add more than \$50 million to the cost of providing service."²⁰⁰ Thus, in light of the

¹⁹⁷ Opening Brief of the Division of Ratepayer Advocates Regarding Fines and Remedies, filed May 6, 2013, at 36.

¹⁹⁸ OII at 11.

¹⁹⁹ DRA Opening Brief at 19; TURN Opening Brief at 7-8.

²⁰⁰ DRA Opening Brief at 18.

language in D.12-12-030 and Pub. Util. Code § 463, DRA contends that this proceeding should consider whether “PG&E’s deficient recordkeeping practices constitute unreasonable errors or omissions that have led to the need to perform certain pipeline replacements” and, if so, to include such findings to “facilitate disallowance of both direct and indirect costs associated with correcting those errors or omissions to the extent they add \$50 million or more to the cost of providing services.”²⁰¹

TURN raises similar arguments, noting that any findings in this proceeding would relate to not only fines and other remedies, but also whether there should be additional disallowances.²⁰² It further maintains that PG&E bears the burden of proof on the issue of prudence and is not entitled to a “presumption of prudence.”²⁰³ Thus, while TURN believes that the record demonstrates the violations alleged by CPSD, it also urges to the Commission to make a separate determination regarding the prudence of PG&E’s conduct in question to determine whether there should be a disallowance for PG&E managerial imprudence.

PG&E contends that it had no prior notice that it needed to defend the prudence or reasonableness of its actions in this proceeding.²⁰⁴ It maintains that such notice was constitutionally required pursuant to Cal. Const., art. 1, § 7(a).

²⁰¹ DRA Opening Brief at 21.

²⁰² TURN Opening Brief at 8; see also, Exh. TURN-16 at 2-3.

²⁰³ TURN Opening Brief at 9 (citing D.93-05-013, 49 CPUC 2d 218, 220)

²⁰⁴ PG&E Reply Brief at 16.

As such, it argues that TURN's suggestion that PG&E bears the burden to prove that its actions were prudent and reasonable are "constitutionally defective."²⁰⁵

PG&E further maintains that consideration of whether a utility's actions are prudent or reasonable under Pub. Util. Code § 463 should take place in a ratesetting, not an enforcement, proceeding.²⁰⁶ It argues that "parties' attempt to use Section 463 to, in effect, impose duplicative and continuing penalties into the future against PG&E based on findings in an enforcement proceeding, is not supported by the statute, Commission precedent or due process."²⁰⁷

We find PG&E's arguments to be unpersuasive. As discussed in Section 5.2 above, the facts in this proceeding warrant that negative inferences be drawn against PG&E. Additionally, PG&E's reliance on D.05-07-010²⁰⁸ to support its assertions that it is "constitutionally defective" to impose on PG&E the burden to prove that its actions are prudent or reasonable is misplaced. In that enforcement proceeding, the Commission was considering whether to petition the superior court to appoint a receiver for *Conlin-Strawberry Water Company*.²⁰⁹ In that decision, the Commission determined that appointment of a receiver was similar to a license revocation and, thus, imposed on the Commission's Water Division the burden of going forward with the evidence. As we have discussed already, the Commission is not considering whether to revoke PG&E's CPCN. Moreover, as discussed above regarding Pub. Util. Code

²⁰⁵ PG&E Reply Brief at 16.

²⁰⁶ PG&E Reply Brief at 17.

²⁰⁷ PG&E Reply Brief at 18.

²⁰⁸ PG&E Reply Brief at 16, fn. 73.

²⁰⁹ Presiding Officer's Decision Authorizing Petition for Receiver and Ordering Reparations (D.05-07-010) at 15 (slip op.).

§ 451, PG&E has always been on notice that it was required to act reasonably with respect to the operations of its natural gas transmission pipeline system.

PG&E's arguments that it had no prior notice that it would need to defend itself against that the prudence or reasonableness of its recordkeeping practices is also without merit. TURN witness Long notes in his testimony:

Violations and imprudence have overlapping, but different, standards. Violations require a showing that PG&E has failed to meet the requirements of a statute, regulation, order, or decision. A finding of imprudence would be appropriate whenever the evidence shows that PG&E did not behave in the manner that would be expected of a gas utility engaged in the transport of a dangerous, highly combustible commodity that is acting in a reasonable manner given industry standards and knowledge available at the time.²¹⁰

PG&E itself argues that it should not be found to have violated various recordkeeping requirements because its actions were consistent with industry practices. If this is the case, it is entirely appropriate to evaluate whether, in those instances where PG&E did not follow industry practices, it was acting reasonably.

Finally, we disagree that we cannot consider whether to disallow any portion of costs approved for rate recovery in the *PSEP Decision*. That decision specifically noted

We do not foreclose the possibility that further ratemaking adjustment may be adopted in those [the Pipeline OII] investigations; thus all ratemaking recovery authorized in today's decision is subject to refund.²¹¹

²¹⁰ Exh. TURN-16 at 2:2-7.

²¹¹ *PSEP Decision* (D.12-12-030), 2012 Cal.P.U.C. LEXIS at 600 *28.

Moreover, as discussed above, the OII contemplates that the Commission will consider imposition of other appropriate relief allowed under the law in addition to any fines imposed. Thus, the issue of disallowances pursuant to Pub. Util. Code § 463 shall be considered in our subsequent decision on fines and remedies.

5.10. Intervenor Authority to Allege Violations

In its reply brief, PG&E asserts that TURN, DRA, CSB and CCSF (jointly, Intervenor) lack the authority to independently assert violations in this proceeding.²¹² Specifically, PG&E contends that although Intervenor could participate in this proceeding, only CPSD has authority to allege violations in Commission-initiated enforcement proceedings such as this. According to PG&E, while the Commission invited Intervenor to participate in this proceeding, it did not delegate its investigatory and enforcement authority to them.²¹³

In support of its assertions that only CPSD may allege violations, PG&E cites to *Investigation of Prime Time Shuttle International, Inc.* [D.96-08-034] (1996) 67 CPUC 2d 437 and *Union Pacific Railroad Co.* [D.93105] (1981) 6 CPUC 2d 196.²¹⁴ PG&E further argues that the “staff-as-prosecutor framework is consistent with several defining features of enforcement proceedings,” most notably the

²¹² PG&E Reply Brief at 157.

²¹³ PG&E Reply Brief at 158.

²¹⁴ PG&E Reply Brief at 157-158.

assignment of the burden of proof to CPSD.²¹⁵ We do not find these arguments persuasive.

Although the role of our enforcement staff is similar in some respects to the role of a prosecutor, that does not foreclose the authority of Intervenors to allege separate and distinct violations. None of the above cases cited by PG&E speaks directly to that issue. PG&E cites *Heckler v. Chaney*, 470 U.S. 821, 831-32 (1985) for its argument that an enforcement agency must retain discretion to exercise its enforcement authority, or to exercise it in a particular way. However, as noted by PG&E, we have exercised our discretion by inviting full intervenor participation:

The Commission invites interested parties to participate actively in this formal investigation, as it involves safety matters important on a local, state, and national basis. Participation by informed parties can facilitate the Commission reaching a decision that is both informed and fair.²¹⁶

PG&E does not show how CPSD's prosecutorial independence and discretion would be, or was in this proceeding, in any way usurped by the ability of Intervenors to participate by alleging violations. We find no legal requirement to preclude such participation, and as a matter of policy we approve it here as we have in the past.²¹⁷ Allowing Intervenors to allege violations in this case is

²¹⁵ PG&E Reply Brief at 157 (citing *Union Pacific Railroad Co.* [D93195] 6 Cal PUC 2d at 200; *Investigation re. Conlin-Strawberry Water Co. Inc.* [D.05-07-010] (2005) 2005 Cal.P.U.C. LEXIS 294 at *22).

²¹⁶ OII at 9.

²¹⁷ In D.04-12-058, *Investigation on the Commission's Own Motion into the Operations, Practices, and Conduct of Pacific Bell Wireless LLC dba Cingular Wireless* (2004), the Commission penalized Cingular based on the extensive evidence submitted by all parties, including the Utility Consumers' Action Network as well as CPSD. Similarly, in D.08-09-038,

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entirely consistent with our invitation to Intervenors to participate in this proceeding and does not constitute a delegation of our investigatory and enforcement authority.

PG&E further argues that permitting Intervenors to “allege independent violations would also be incompatible with the carefully calibrated procedures that apply in enforcement proceedings.”²¹⁸ In particular, PG&E cites to the rules prohibiting ex parte communications and the separation of prosecutorial and quasi-judicial functions. PG&E concludes that “[a] scheme in which Intervenors could independently assert violations exposes the respondent (in this case PG&E) to procedural uncertainty and potential abuse of prosecutorial discretion.”²¹⁹

While we allow Intervenors to allege violations in this proceeding, this has not changed the adjudicatory nature of this proceeding and the associated procedural rights set forth in our Rules of Practice and Procedure. Further, we hold Intervenors to the same standard of notice to which we hold CPSD, i.e., Intervenors must provide adequate notice of alleged violations and there must be an opportunity for PG&E to respond to the allegations.

6. Issues Addressed in this Decision

There is no dispute that PG&E does not possess every single document relating to the design, operation and maintenance of every segment in its transmission pipeline system. There is also no dispute that PG&E’s files and

Investigation on the Commission’s Own Motion into the Practices of Southern California Edison Company (2008), the Commission considered proposals by DRA and TURN.

²¹⁸ PG&E Reply Brief at 159.

²¹⁹ PG&E Reply Brief at 160.

information databases contain incorrect and/or missing data. However, these facts alone do not lead to a conclusion that PG&E has maintained and operated its gas pipeline system in an unsafe manner or in violation of the Public Utilities Code, state or federal regulations or PG&E's own operating standards.

The OII divided this proceeding into two phases. The first phase would address the alleged violations, while the second phase would consider any penalties resulting from violations pursuant to Pub. Util. Code §§ 2104.5, 2107, and 2108. As identified in the Scoping Memo, the issues to be considered in the first phase are:

1. Was PG&E's gas transmission pipeline recordkeeping and its knowledge of its own transmission gas system, in particular the San Bruno pipeline, deficient and unsafe?
2. Did PG&E's recordkeeping practices violate any provisions of the Public Utilities Code, General orders, or Commission decisions?
3. Did PG&E's recordkeeping practices violate any federal gas safety regulations and laws that the Commission is authorized to enforce in California?
4. Did PG&E's recordkeeping practices violate other recordkeeping-related rules or requirements regarding its procedures, training, and supervision?²²⁰

As noted previously, this decision will only address the violations alleged by CPSD and intervenors. The penalties and remedies to be imposed for any violations found in this decision will be addressed in a separate decision.

²²⁰ Scoping Memo at 2.

7. Alleged Records Violations Relating to Line 132, Segment 180, San Bruno Incident

7.1. Design and Installation of Segment 180

CPSD alleges two violations associated with the availability and reliability of records related with the installation of Segment 180 of Line 132. It contends that since PG&E did not maintain accurate, complete and accessible records of the design, manufacture and installation of pipe for Line 132, it could not have maintained or operated the Segment 180 in a safe manner.²²¹ In particular, CPSD contends that PG&E “failed to keep complete and accurate construction records for the project GM 136471, the project that installed Segment 180 in 1956, replacing a part of line 132 that had been installed in 1948.”²²²

7.1.1. Violation 1: Salvaged Pipe Records

CPSD notes that PG&E could not produce historical records that show the source or specifications for the piece of Segment 180 pipe that failed on September 9, 2010. It states that Job File GM 136471 for the 1956 project that installed Segment 180 contains primarily accounting records, and does not contain any information concerning pipe specifications (*e.g.*, design specifications, as-built drawings, inspections reports, weld x-ray inspection results or hydrostatic test records) or source records of the section of pipe that failed.²²³ CPSD further states that based on the records in Job File GM 136471, there is a possibility that 90 feet of installed pipe was salvaged pipe.²²⁴

²²¹ CPSD Opening Brief at 26.

²²² CPSD Opening Brief at 33; see also, Exh. CPSD-4 at 5:13-16.

²²³ CPSD Opening Brief at 27.

²²⁴ Exh. CPSD-4 at 3:20 – 4:6. CPSD also contends that there is also a possibility the pipe that failed in Line 180 was to have been junked. CPSD supports this assertion by noting that the

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CPSD notes that if reconditioned pipe had been installed in Segment 180, the lack of records means that PG&E cannot show that the pipe had been cleaned, inspected or hydrostatically tested to establish the minimum MAOP as specified under ASME B.31.8 §§ 811.25 – 811.27.²²⁵ CPSD further notes that while ASME B.31.8 provides for conservative values in the absence of certain data elements, such as yield strength and joint efficiency, PG&E assumed values above these conservative levels.²²⁶ In light of the above, CPSD alleges that PG&E “failed to meet the minimum requirements for the safe reuse of salvaged pipe.”²²⁷ As such, CPSD alleges that PG&E violated Pub. Util. Code § 451.

PG&E states that it did not purchase pipe for the Segment 180 project, but rather used pipe held in inventory.²²⁸ It further concedes the “Segment 180 job file documents do not foreclose the possibility that some pipe used in the Segment 180 job may have been reused.”²²⁹ However, it argues that that CPSD had not presented any proof that salvaged pipe was used in Segment 180. It asserts that “without proof that such pipe was present, no argument can be made regarding the lack of records.”²³⁰

NTSB had noted that the failed pipe ‘had metal characteristics of scrap, that it was rolled in an abnormal direction, and that it had a number of pups contrary to good construction practices.’ (CPSD Opening Brief at 29.)

²²⁵ CPSD Opening Brief at 28.

²²⁶ CPSD Opening Brief at 30-31.

²²⁷ CPSD Opening Brief at 28.

²²⁸ PG&E Opening Brief at 65.

²²⁹ PG&E Opening Brief at 65.

²³⁰ PG&E Opening Brief at 63.

PG&E further argues that even if the pipe had been reconditioned, there was no legal requirement to maintain “a ‘perfect’ chain of custody” or to maintain records to the level of detail that would have disclosed the defects in Segment 180. PG&E notes that if it had a record that pipe was substandard, it would have removed the pipe from the ground. Moreover, PG&E argues that even if salvaged pipe had been used, Segment 180 ruptured because of a defect in the long-seam of the pipe, not because of poor recordkeeping.²³¹

We disagree with PG&E’s argument that CPSD bears the burden of proving that PG&E used salvaged pipe in Segment 180. As we have discussed in Section 5.2 above, PG&E is responsible for retaining records concerning the installation, maintenance and operations of its pipeline system. While PG&E is correct that there is no expectation that there be “perfect” records, there is an expectation that PG&E would have records about pipe source and specifications, regardless of whether the pipe is new or reconditioned. However, as a result of **no** records regarding the source of pipe, CPSD cannot determine whether salvaged pipe was used, and, if so, whether PG&E failed to perform the necessary steps prior to its installation in Segment 180. In light of this, we believe that it would be reasonable to infer that PG&E had used salvaged pipe in Segment 180 and did not follow ASME B.31.8 requirements with respect to the re-use of used pipe.²³²

Our inference is supported by the record in this proceeding. PG&E has testified that in the 1950’s and early 1960’s, PG&E reconditioned pipe and placed

²³¹ PG&E Opening Brief at 66.

²³² See Section 5.2.1.2 regarding adverse inferences.

it in stock for future use at the DeCoto Pipe Yard.²³³ During that same time period, PG&E also purchased new gas transmission pipe and held it in general inventory at the DeCoto Pipe Yard.²³⁴ Further, PG&E admits that it pulled pipe from its inventory for the Segment 180 job, but has no records to demonstrate whether the pipe removed from inventory was new or reconditioned. PG&E has conceded that there is a possibility that salvaged pipe was used in Segment 180.²³⁵

PG&E's assertion that poor recordkeeping practices did not contribute to the San Bruno explosion and fire is not a determining factor in considering whether it complied with recordkeeping requirements to ensure safe operation of its pipeline system. It is difficult to conclude that Segment 180 could be operated in a safe manner when PG&E's records could not even identify what type of pipe had been installed in 1956. PG&E states that it "designed Segment 180 to be constructed from 0.375-inch wall thickness, X-52 grade ... DSAW pipe ... and has confirmed that the majority of the pipe used on the job meets those specifications."²³⁶ PG&E's confirmation, however, is the result of the MAOP validation efforts ordered after the San Bruno explosion, not records at the time Segment 180 was installed. Furthermore, even though the design specified X-52 grade, DSAW pipe, Segment 180 was identified as X-42 grade, seamless pipe in

²³³ Exh. PG&E-48.

²³⁴ Exh. CPSD-18 (Disc 16) PG&E Response to CPSD Data Request 10, Q2 at 1(OIL_DR_10_Q2.pdf).

²³⁵ PG&E Opening Brief at 65; see also Joint RT at 434:16 – 436:2 (PG&E/Harrison) (stating PG&E will not know where every piece of re-used pipe is located in its transmission system until the MAOP validation effort is complete, as there is no comprehensive list of the location of reconditioned pipe.)

²³⁶ PG&E Reply Brief at 42.

PG&E's GIS system. Documents in PG&E's Job File GM 136471 consisted mainly of accounting records.

Based on the above, we find that PG&E's lack of accurate and sufficient records regarding the design and installation of pipeline impacted its ability to safely maintain and operate Segment 180 of Line 132. This includes the possibility that PG&E used salvaged pipe in Segment 180 without proper reconditioning. As such, we find that PG&E has violated Pub. Util. Code § 451.

CPSD contends that this violation began prior to 1956, when records related to GM 136471 were initiated. However, it concedes that it is unknown when the records were included in the job file.²³⁷ As such, CPSD also suggests that the violation potentially occurred prior to 1951, which would mean that PG&E also violated Section 13(b) of the Public Utilities Act. We do not believe that it is appropriate to set the violation at the earliest possible date. Segment 180 was installed in 1956. Up until that date, PG&E had an opportunity to identify any reconditioned pipe used in Segment 180 installation and ensure that the segments complied with the ASME B.31.8 requirements regarding reconditioned pipe. Consequently, we find that the violation began in 1956. Consistent with Section 5.4 above, we find that this was a continuing violation. As discussed above, there was a possibility that Segment 180 contained reconditioned pipe. Although PG&E knew of this possibility, and that it had no records regarding the source of the pipe, there are no records that PG&E had conducted any inspections to confirm the type of pipe that had been used. PG&E had multiple

²³⁷ 2 RT at 278:21 – 279:18 (CPSD/Felts).

opportunities to inspect Segment 180 over the years, but had not done so. The violation ended on September 9, 2010, when the pipeline ruptured.

**7.1.2. Violation 2: Construction Records for 1956
Project GM 136471**

As discussed in Violation 1, Job File GM 136471 did not contain design or construction records for the installation of Segment 180, but rather accounting records. However, CPSD notes “PG&E created detailed engineering records in the course of its regular records practice from 1948 to 1967.”²³⁸ CPSD believes that if these detailed engineering records had been retained in Job File GM 136471, the existence of the pups would have been discovered during PG&E’s review of records for Integrity Management and, presumably, investigated further.

CPSD notes, however, that PG&E did not even know that it did not have a construction job file for Segment 180 until after the pipe in San Bruno exploded.²³⁹ As a result, PG&E could not have reviewed Segment 180 as part of its data collection effort for Integrity Management. Since PG&E has testified that Job Files are PG&E’s “file of record”, CPSD believes that the “lack of critical information about the design and construction of Segment 180 [places] employees and the general public in danger.”²⁴⁰

CPSD states that in addition to not containing complete and accurate construction records, the job file also provided erroneous specifications of the pipe. It notes that while PG&E’s accounting records had an X52 SMYS material

²³⁸ CPSD Reply Brief at 44.

²³⁹ CPSD Reply Brief at 42.

²⁴⁰ CPSD Opening Brief at 33.

requirement for Segment 180, PG&E's GIS system showed the pipes with X42 SMYS material requirement. In addition to the discrepancy in the SMYS material requirements, the NTSB had found that four of the pups in the failed pipe segment did not meet either of these requirements.²⁴¹

CPSD concludes "the absence of records detailing the construction of Segment 180 created an unsafe condition because PG&E lacked sufficient basic information to specify safe operating parameters for the pipe, such as the maximum allowable operating pressure (MAOP) and maximum operating pressure (MOP). PG&E endangered its employees and the public by operating Line 132 without knowing the details of the construction of Segment 180 and made no effort to find or recreate the original construction file from 1956 to 2010."²⁴² CPSD therefore contends that the absence of records detailing the construction of Section 180 created an unsafe condition and violated Pub. Util. Code § 451.

PG&E states that the information in the job file was "consistent with Company and industry practice, and included information sufficient for PG&E to identify the type of pipe specified and requisitioned from Company storage for use in constructing Segment 180."²⁴³ Moreover, it asserts that ASME B.31.8 "did not require an operator to document pipeline construction jobs at the joint-by-joint level necessary to show the presence of the pups."²⁴⁴ PG&E further argues that, based on the "degree of detail" in GM 136471, the absence of any

²⁴¹ CPSD Opening Brief at 35.

²⁴² CPSD Opening Brief at 36 (citations omitted).

²⁴³ PG&E Reply Brief at 46.

²⁴⁴ PG&E Reply Brief at 46.

information regarding the defective pups supported its conclusion that the defective pipe was unknowingly installed.

Finally, PG&E refutes CPSD's assertion that it was unsafe to operate Segment 180 at an MAOP of 400 psi. PG&E notes that Segment 180 was designed to support and safely operate at an MAOP of 400 psi.²⁴⁵ Further, PG&E asserts that CPSD ignores 49 CFR 192.619(c), which allowed pipeline operators to "establish a pipeline MAOP based upon the highest operating pressure experienced during a five year period between 1965 and 1970."²⁴⁶

We disagree with PG&E's assertions that Job File GM 136471 contained information sufficient for PG&E to identify the type of pipe specified. As noted in the NTSB Accident Report, construction documentation for Segment 180 consisted of "journal vouchers, material transfers, paving receipts and various other cost accounting sheets. PG&E did not provide any design/material or construction specifications, inspection records, as-built drawings, or radiography reports."²⁴⁷ As discussed in Violation 1 above, PG&E's lack of accurate and sufficient records regarding the design and installation of pipeline impacted its ability to safely maintain and operate Segment 180 of Line 132. As such, we find that PG&E has violated Pub. Util. Code § 451.

We further do not find PG&E's arguments that the absence of any information regarding the defective pups in Job File GM 136471 to support a conclusion that there were no recordkeeping deficiencies or that the defective

²⁴⁵ PG&E Reply Brief at 47.

²⁴⁶ PG&E Reply Brief at 47.

²⁴⁷ *National Transportation Safety Board Pipeline Accident Report* NTSB/PAR-11/01, adopted August 30, 2011, at 25 - 26.

pups were installed without PG&E's knowledge. ASME B.31.8 § 811.27(A), states:

All pipe shall be cleaned inside and outside, if necessary, to permit good inspection, and shall be visually inspected to insure that it is reasonable round and straight, and to discover any defects which might impair its strength or tightness.

However, the NTSB Accident Report notes: "The fabrication of five of the pups in 1956 would not have met generally accepted industry quality control and welding standards then in effect, indicating that those standards were either overlooked or ignored. The weld defect in the failed pup would have been visible when it was installed."²⁴⁸ Thus, even if PG&E was not required to "document pipeline construction jobs at the joint-by-joint level necessary to show the presence of the pups" as it claims, its failure to notice the presence of the pups at the time the pipe segment was installed would suggest that it failed to comply with the ASME standards.

Finally, we find that PG&E's arguments that it properly installed Segment 180 based on its design specifications to be without merit. GM 136471 does not contain documentation to confirm that the actual pipe installed in Segment 180 did in fact meet the design specifications. Moreover, as discussed above, PG&E concedes that it may have used reconditioned pipe in Segment 180. Thus, mere reliance on design specifications, with nothing more, does not support PG&E's conclusion that Segment 180 could be safely operated at an MAOP of 400 psi. We also do not find PG&E's reliance on the Grandfather Clause (49 CFR 192. 619(c)) to be compelling. As discussed in Section 5.7,

²⁴⁸ *National Transportation Safety Board Pipeline Accident Report* NTSB/PAR-11/01, adopted August 30, 2011, at x.

49 CFR 192.619(c) was never intended to serve as the basis for setting the MAOP in every instance where there is an absence of other records that could establish MAOP. In this instance, PG&E has not provided any records to support that pipe used in Segment 180 met the design specifications to operate safely at an MAOP of 400 psi.

CPSD contends that this violation began in 1956, when Segment 180 was installed. We agree. As with our finding in Violation 1 above, we determine that this is a continuing violation, which ended on September 9, 2010, when Segment 180 ruptured.

7.2. Pipeline Operations and Maintenance

7.2.1. Violation 3: Pressure Test Records

As part of its June 20, 2011 response, PG&E states that Segment 180 was tested for leaks using the “soap test” upon completion of construction.²⁴⁹ Segment 180 was also “gas tested” in 1961.²⁵⁰ CPSD contends that a soap test is a gas leak test, not a hydrostatic strength (pressure) test. It states that although both tests were used to confirm the integrity of welds under pressure, “the two tests are distinct from each other, and were done in different periods of time for different purposes and under different standards and effectiveness.”²⁵¹

CPSD states that starting in 1955, PG&E represented that it followed the ASME B.31.8 standards. ASME B.31.8 § 841.4 required “a test to prove strength of pipelines and mains that will operate at hoop stresses of 30% or more of the

²⁴⁹ PG&E’s June 20, 2011 Response at 6D-4.

²⁵⁰ PG&E’s June 20, 2011 Response at 6D-4.

²⁵¹ CPSD Opening Brief at 40.

specified minimum yield strength of the pipe.”²⁵² These tests were conducted to confirm that the pipe is fit for service at a specific operating pressure.

Additionally, ASME B.31.8 § 841.417 required that the test records be maintained for the life of each pipeline and main.”²⁵³ Both ASME B.31.8 § 841.4 and ASME B.31.8 § 841.417 have been incorporated in the federal regulations and, by extension, GO 112.²⁵⁴

CPSD contends that based on PG&E’s representations and the ASME B.31.8 standards, PG&E was required to retain pressure test records for the pipe installed in Job File GM 136471.²⁵⁵ However, CPSD notes that PG&E admits that it has not located records showing that a post-installation pressure test had been conducted on Segment 180 and therefore could not confirm the integrity of the segment.²⁵⁶ Consequently, CPSD asserts that PG&E has violated ASME B.31.8 § 841.4 and GO 112, 112-A and 112-B § 107.

CPSD further maintains that even if PG&E had not been required to retain test records under GO 112 or the federal regulations, PG&E would have been in violation of Pub. Util. Code § 451 because the absence of pressure test records meant that “PG&E was operating the high pressure pipeline without the benefit of knowing the construction limitations of Segment 180 of Line 132, placing its

²⁵² CPSD Opening Brief at 39.

²⁵³ CPSD Opening Brief at 39.

²⁵⁴ *See*, 49 CFR 192.505 & 192.507.

²⁵⁵ CPSD Opening Brief at 40.

²⁵⁶ CPSD Opening Brief at 38.

employees and the public at risk of exposure to a pipeline failure under normal operating conditions.”²⁵⁷

PG&E disputes that the lack of any post-installation pressure test records for Segment 180 constitutes a violation of ASME B.31.8, Pub. Util. Code § 451 or GO 112, 112-A and 112-B § 107. First, it asserts that while it used the ASME standards as “guidance in its gas pipeline construction practices during the 1950s,” post-installation pressure testing was neither mandatory nor accepted industry-wide practice until after Segment 180 was installed.²⁵⁸ Additionally, PG&E contends that there was no requirement to conduct a strength test in 1956.²⁵⁹

PG&E further argues that when GO 112 was adopted in 1961, § 104.3 “manifested the Commission’s intent not to regulate the initial testing of pipeline facilities installed prior to 1961.”²⁶⁰ As such, it concludes that any requirement for post-installation pressure testing contained in GO 112 did not apply to existing pipeline, including Segment 180.²⁶¹

Finally, PG&E maintains that CPSD’s allegation that there is safety threat in operating Segment 180 without a post-installation pressure test is contrary to the Natural Gas Pipeline Safety Act and the Grandfather Clause. It notes “the grandfather clause allowed an operator to establish a safe MAOP based solely on

²⁵⁷ CPSD Opening Brief at 40.

²⁵⁸ PG&E Opening Brief at 69.

²⁵⁹ PG&E Opening Brief at 69.

²⁶⁰ PG&E Opening Brief at 70.

²⁶¹ PG&E Opening Brief at 70; PG&E Reply Brief at 49.

the highest operating pressure experienced during a five year period between 1965 and 1970.”²⁶²

We do not find PG&E’s arguments regarding ASME B.31.8 compelling. Although the ASME standards were not mandatory, PG&E had decided to comply with the standards. Between 1955 and 1961, PG&E represented to the Commission that it followed the ASME B.31.8 standard.²⁶³ It was on the basis of its voluntary compliance that PG&E, along with other gas utilities, argued that there was no need to adopt a general order regarding the design, construction, testing, maintenance, and operations of gas transmission pipeline systems.²⁶⁴

ASME B.31.8 § 841.411 states all pipelines and mains operated at a hoop stress of 30% or more of SMYS to be given a field test to prove strength after construction and before being placed in operation. ASME B.31.8 § 841.412 specifies the type of test to be performed based on class location, while ASME B.31.8 § 841.417 requires the operator to “maintain in its file for the useful life of each pipeline and main, records showing the type of fluid used for test and the test pressure.” Segment 180 was installed in a class 2 location, and therefore should have been tested with air or hydrostatically to at least 1.25 times the maximum operating pressure.²⁶⁵ Although PG&E states that it followed ASME B.31.8, it also testified that it did not perform a pressure test, but rather a “soap test,” which was likely only to check for leaks on girth welds.²⁶⁶ As PG&E

²⁶² PG&E Reply Brief at 50.

²⁶³ Exh. CPSD-18 (Disc 17)PG&E Response to CPSD Data Request 15, Q6 at 1-2 (GasTransmissionSystemRecordsOII_DR_CPUC_015-Q06_redacted.pdf).

²⁶⁴ Exh. PG&E-4 (Decision No. 61269 at 4).

²⁶⁵ Exh. PG&E-47 (ASME B.31.8 § 841.412(b)).

²⁶⁶ PG&E Opening Brief at 70.

argues, and CPSD concedes, a soap test is not a hydrostatic test – and clearly not the type of test articulated in ASME B.31.8 § 841.412.

We find PG&E's response to be troubling, as it suggests that PG&E did not conduct any pressure tests on Segment 180 at the time it was installed, or any time thereafter.²⁶⁷ Although PG&E states that the ASME B.31.8 standards were not mandatory, PG&E represented that it voluntarily followed these standards, not that it was picking and choosing to follow only certain sections of the ASME B.31.8 standards.²⁶⁸ Indeed, PG&E stated at a November 22, 1955 hearing on Line 300B²⁶⁹ that its construction practices in 1955 included²⁷⁰:

- Pipe was to be tested hydrostatically at the mill;
- All buried pipe was to be protected from external corrosion through primer, paint, two coats of asphalt, and two layers of felt. This wrapping was to be inspected both in the yard where the pipe was stored before installation and on the job site; and
- The pipe was to be strength tested using gas or water as the test medium. In sections closer to the Milpitas terminal, PG&E planned to conduct hydrotests up to 125% working pressure, as specified by ASME B31.8 section 841.412-D (1955). PG&E was also exploring the feasibility

²⁶⁷ This conclusion is also supported by the NTSB Accident Report, which identifies various deficiencies in quality control associated with the installation of Segment 180, included lack of records to indicate that hydrostatic testing had been performed. (NTSB Accident Report at 95.)

²⁶⁸ As noted in Decision No. 61269, the gas utilities, including PG&E, had argued that there was no need for additional installation and testing requirements, since they were voluntarily following the ASME B.31.8 standards.

²⁶⁹ Line 300B was constructed in 1955 pursuant to ASME B.31.8. PG&E represented that this line was designed to exceed ASME B.31.8 requirements in varying degrees and that "had a built in safety margin beyond that called for by ASME B.31.8." (PG&E's June 20, 2011 Response at 6A-5.)

²⁷⁰ PG&E's June 20, 2011 Response at 6A-4.

of conducting hydrotests in class 2 locations, and planned to conduct such testing where practical[.]

Based on PG&E's representations, the Commission could reasonably expect that PG&E was performing the pressure tests provided in ASME B.31.8 § 841.412 and retaining records of these tests as provided in ASME B.31.8 § 841.417. As CPSD notes, "PG&E cannot turn its claimed compliance with an engineering safety standard on and off light a light switch."²⁷¹ "Otherwise, the safety assertions of PG&E – and the decision of the Commission which rely on those assertions – would be meaningless and false."²⁷²

We further do not find PG&E's arguments regarding GO 112 § 104.3 or the Grandfather Clause to be persuasive. Both of these presume that a pressure test had been conducted. However, as PG&E has testified, no pressure test of Segment 180 had been performed. As we discuss in Section 5.7 above, the Grandfather Clause is not a "Get Out of Jail Free" card that can be used any time there are no records confirming a pipeline segment's MAOP.

Since PG&E represented that it was complying with the ASME B.31.8 standards in 1956, it should have conducted a pressure test to ensure the safe operation of Segment 180 and retained records of that test. By failing to do so, PG&E violated ASME B.31.8. In addition, PG&E violated Pub. Util. Code § 451, as it failed to verify that Segment 180 could be safely operated at the operating pressure for Line 132. We find no violation of GO 112. As PG&E notes, GO 112 was adopted in 1961, after Segment 180 had been installed.

²⁷¹ CPSD Opening Brief at 41.

²⁷² CPSD Opening Brief at 41.

Based on the above, we find that this violation commenced in 1956, with the installation of Segment 180. We further agree with CPSD that this violation is a continuing violation. As evidenced by PG&E's MAOP validation effort, PG&E could, and has, conducted hydrostatic pressure tests of pipes and created reports. Thus, it could have cured this violation with respect to Segment 180 at any time before September 9, 2010.

7.2.2. Violation 4: Underlying Records Related to Maximum Allowable Operating Pressure on Segment 180

According to PG&E, Line 132 was designed to operate at an MAOP of 400 psi. PG&E has also stated that Segment 180 was designed to safely operate at 400 psi. However, in 1978, PG&E lowered the MAOP of Line 132 between mileposts 35.84 and 46.59 to 390 psi. This portion of Line 132, which includes Segment 180, retained this lower MAOP between 1978 and 2004.²⁷³ In 2003, PG&E states that it discovered that it had erroneously decreased the MAOP in 1978. Consequently, PG&E increased the MAOP back to 400 psi and maintained Line 132 at that level until 2010.²⁷⁴

CPSD states that since PG&E did not have installation or pressure test records for Segment 180, it should not have increased the MAOP without first performing a hydrostatic test.²⁷⁵ It notes that PG&E did not have the records supporting the recommendation to reduce the MAOP to 390 and had conflicting MAOP records for Line 132 from 1978 to 2004.²⁷⁶ It alleges that PG&E's failure to

²⁷³ Exh. PG&E-61 at 4-10.

²⁷⁴ Exh. PG&E-61 at 4-11.

²⁷⁵ CPSD Opening Brief at 45.

²⁷⁶ CPSD Opening Brief at 45.

perform a hydrostatic test is a violation of Pub. Util. Code § 451 since it “placed employees and the public at risk of exposure to a pipeline failure.”²⁷⁷

PG&E disagrees with CPSD’s conclusion on various grounds. First, PG&E argues that pressure logs from October 16 and 28, 1968 showed that the maximum MAOP for Line 132 had measured at 400 psi.²⁷⁸ Thus, it contends that the MAOP for all of Line 132 was 400 psi pursuant to the Grandfather Clause (49 CFR 192.619(c)).²⁷⁹ PG&E next argues that since there is no pressure limiting equipment at milepost 35.84, it would not have been possible to have the MAOP set at 400 psi upstream of that location and 390 psi downstream.²⁸⁰ Thus, PG&E states that the amendment in 2003 did not change the conditions along the line and was not setting a new higher pressure for Line 132.²⁸¹ As such, PG&E asserts that it could properly rely on the Grandfather Clause to establish the MAOP of Line 132 from Milpitas Terminal (milepost 0.00) to Martin Station (mile post 46.59) at 400 psi. Further, PG&E argues that the San Francisco Division’s basis for decreasing the MAOP between mileposts 35.84 and 46.59 to 390 psi was based on information that “did not reflect an actual pressure observation on Line 132.”²⁸² Rather, PG&E states that reference to milepost 35.84 “reflects the point at which the San Francisco Division’s responsibility for Line 132 began.”²⁸³ Finally, PG&E notes that while it has documentation that Line 132 had been operated at

²⁷⁷ CPSD Opening Brief at 45.

²⁷⁸ Exh. PG&E-42 (PG&E Data Response to CPSD DR 3, Q 20).

²⁷⁹ PG&E Opening Brief at 72.

²⁸⁰ Exh. PG&E-61 at 4-12 (Phillips).

²⁸¹ PG&E Opening Brief at 72-73.

²⁸² Exh. PG&E-61 at 4-10: 17-18(Phillips).

²⁸³ Exh. PG&E-61 at 4-11: 14-16. (Phillips).

an MAOP of 400 psi, CPSD has provided no evidence to conclude that this operating pressure is incorrect.²⁸⁴

We do not find PG&E's arguments persuasive. As discussed previously in Section 5.7, an operator could use the Grandfather Clause to set MAOP when it did not have complete records under certain circumstances. However, as we have discussed in connection with Violations 1 – 3 above, PG&E did not have the necessary installation, testing, maintenance and operating history records to allow us to conclude that the pipe installed for Segment 180 met the design requirements. While PG&E has stated that Line 132 had been designed to operate at an MAOP of 400 psi, it has failed to retain records demonstrating that all segments installed had met these design requirements and had been pressure tested at 400 psi.

Despite the absence of records, PG&E still concluded that the 1978 reduction was in "error" based on a 1976 memo that included two single instances in 1968 when Line 132 was operated at 400 psi.²⁸⁵ It is unclear how PG&E personnel were unaware of this memo two years later (in 1978) when it determined that the MAOP should be set at 390.²⁸⁶ However, given the lack of records for Segment 180 and conflicting data on the MAOP for Line 132, the MAOP for this line cannot be conclusively determined as 400 psi as it is unknown whether these two instances represented operating Line 132 up to its MAOP or operating Line 132 above its MAOP. Under these circumstances, PG&E should not have increased the MAOP of Line 132 in 1978 without first

²⁸⁴ PG&E Reply Brief at 51-52.

²⁸⁵ Exh. PG&E-42.

²⁸⁶ Exh. PG&E-43.

conducting a hydrostatic test. We agree with CPSD that failure to do demonstrated a failure to operate Line 132 safely, as required by Pub. Util. Code § 451.

We also do not find PG&E's explanations why there was no change in operating conditions by increasing the MAOP to 400 psi to be convincing. While PG&E has testified that since there was no pressure limiter at mile post 35.84, there are no records to allow us to understand why the San Francisco Division concluded that the MAOP for Line 132 was 390 psi. Thus, the absence of a pressure limiter does not demonstrate that the MAOP for Line 132 should have been 400 psi, not 390 psi. As we have previously determined, PG&E is the keeper of the records for its pipeline system. As such, we draw an adverse inference from its failure to present records that would explain how such an "erroneous" conclusion had been reached. This inference is that in 1978, the San Francisco Division had properly concluded that the MAOP should be reduced to 390 psi and that PG&E's increase of MAOP in 2004 constituted an uprating of the pipeline that required a hydrostatic test.

Finally, we express our concern that PG&E's determination to amend the MAOP from 390 psi to 400 psi was made on December 10, 2003, one day after the initial inquiry that the level may be incorrect, and the day before a scheduled pressure test/check of Line 132 for integrity management purposes.²⁸⁷ E-mail communications suggest that PG&E amended the MAOP to 400 psi without further investigation or verification to allow pressure testing at the higher level and ensure that "our MAOP isn't lowered again because we haven't operated at

²⁸⁷ See, Exh. PG&E-45.

the MAOP.”²⁸⁸ This gives the impression that PG&E was more concerned with preserving a certain MAOP, rather than ensuring that their pipeline system was operated safely.

Based on these considerations, we find that PG&E violated Pub. Util. Code § 451 by increasing the MAOP of Line 132 from 390 psi to 400 psi without conducting a hydrostatic test. This violation commenced on December 10, 2003, the date PG&E conducted its pressure test at the higher MAOP and ended on September 9, 2010, the date of the San Bruno explosion.

7.2.3. Violation 11: Incidents of Operating Line 132 above 390 psi

In addition to contending that PG&E failed to have records to substantiate increasing the MAOP on Line 132 from 390 psi to 400 psi, CPSD also asserts that PG&E violated Pub. Util. Code § 451 by operating Line 132 above 390 psi on December 11, 2003, December 9, 2008, and September 9, 2010.²⁸⁹ CPSD notes that between 1978 to 2003, the MAOP for Line 132 was 390 psi and the maximum operating pressure of that line for the preceding 5 years (1998-2003) was 375 psi.²⁹⁰ However, on December 11, 2003 and December 9, 2008, PG&E tested Line 132 at 400 psi.²⁹¹ On September 9, 2010, PG&E documented the pressure on Line 132 at 396 psi.²⁹² CPSD maintains that PG&E violated Pub. Util. Code § 451

²⁸⁸ Exh. PG&E-44.

²⁸⁹ CPSD Opening Brief at 72.

²⁹⁰ CPSD Opening Brief at 70.

²⁹¹ CPSD Opening Brief at 72; CPSD Reply Brief at 64-65.

²⁹² CPSD Opening Brief at 73.

because it operated Line 132 at pressures greater than safety and specific law permitted.

PG&E contends that it properly established that the MAOP for Line 132 was 400 psi, and that the prior reduction to 390 psi MAOP was in error.²⁹³ Thus, PG&E maintains that it was allowed to operate Line 132 above 390 psi, up to 400 psi. It further notes that even if the portion of Line 132 that includes Segment 180 (mileposts 35.84 to 46.59) had an MAOP of 390 psi, federal regulations “contemplate that operators will experience excursions above MAOP from time to time” and thus “require operators to set their overpressure protection so that the pressure does not exceed the MAOP plus 10 percent.”²⁹⁴ Finally, PG&E notes that CPSD has no records showing the pressures for Line 132 between mileposts 35.84 and 46.59 ever reached or exceeded 390 psi on any of the three days in question.²⁹⁵

We have considered and addressed PG&E’s first argument in Violation 4 above. As we concluded, PG&E did not present any records to explain why the 1978 decrease in MAOP was in error and lacks records to support a conclusion that Segment 180 had been installed and tested to meet an MAOP of 400 psi. Consequently, there is no basis to conclude that PG&E could operate Line 132 above 390 psi without first conducting a hydrostatic test.

We also find PG&E’s other arguments unpersuasive. PG&E’s briefs appear to suggest that 49 CFR 192.195 and 192.201(a)(2)(i) allow an operator to exceed MAOP at any time, so long as the pressure does not exceed the MAOP

²⁹³ PG&E Opening Brief at 94.

²⁹⁴ PG&E Opening Brief at 95 (citing 49 CFR 192.195 & 192.201(a)(2)(i)).

²⁹⁵ PG&E Opening Brief at 94-95.

plus 10 percent. However, a closer examination of 49 CFR 192.195 and 192.201(a)(2)(i) finds that PG&E has interpreted these two regulations too broadly. First, 49 CFR 192.195 address the need for pressure relieving or pressure limiting devices in the event MAOP is “exceeded as the result of pressure control failure or some other type of failure.” PG&E cannot reasonably argue that a plan to operate Line 132 at 400 psi for 2 hours is an “accident” or “pressure control failure.” Similarly, 49 CFR 192.201(a)(2)(i) states: “If the maximum allowable operating pressure is 60 p.s.i. (414 kPa) gage or more, the pressure may not exceed the maximum allowable operating pressure plus 10 percent, *or the pressure that produces a hoop stress of 75 percent of SMYS, whichever is lower.*”²⁹⁶ This provision can hardly be read as permitting an operator to operate its pipeline at MAOP plus 10 percent under all circumstances.

Finally, PG&E seeks to have us believe that although Line 132 had no pressure limiting equipment at milepost 35.84 and PG&E had recorded a pressure reading of 403 psi at milepost 32.92,²⁹⁷ the operating pressure between mileposts 35.84 and 46.59 never exceeded 390 psi. This argument, however, is undermined by PG&E’s own testimony that there could not be two different MAOPs upstream and downstream of milepost 35.84. Thus PG&E’s arguments are unsupported by the facts presented and its own witness’ testimony.

CPSD contends that the operation of Line 132 above 390 psi on December 11, 2003 and December 9, 2008 are continuing violations because these incidents weakened Segment 180 and PG&E continued to fill the pipes with

²⁹⁶ 49 CFR 192.201(a)(2)(i) (emphasis added).

²⁹⁷ CPSD Reply Brief at 64.

pressurized gas every day.²⁹⁸ CPSD sets the end date of these violations as September 9, 2010. CPSD further states that the involuntary operation of Line 132 above 390 psi on September 9, 2010 is a one-day violation.²⁹⁹

Consistent with our determinations in Violation 4, we find that operating Line 132 above 390 psi on December 11, 2003 and December 9, 2008 constitute violations of Pub. Util. Code § 451. Operating a high pressure gas transmission line above its MAOP is inherently unsafe because it could damage the integrity of the pipe and result in pipe failure. We further find that these are continuing violations that ended on September 9, 2010. PG&E did not have sufficient records demonstrating that Line 132 between mileposts 35.84 and 46.59 could be operated at a pressure above 390 psi. Therefore, its actions on these two dates compromised the safety of Line 132 and, thus, should be considered continuing violations. PG&E could have assured that Line 132 was operating at the proper MAOP by conducting a hydrostatic test. These violations continued until September 9, 2010. We also find that had Segment 180 not ruptured on September 9, 2010, that incident would also have constituted a continuing violation.

7.3. The San Bruno Explosion

7.3.1. Violation 5: Clearance Procedures

CPSD notes that PG&E's Utilities Work Procedure WP4100-10, outlines the process for planning the work performed at "any facility if the work could potentially effect ongoing gas supply operations."³⁰⁰ However, CPSD contends

²⁹⁸ CPSD Opening Brief at 72.

²⁹⁹ CPSD Opening Brief at 73.

³⁰⁰ CPSD Opening Brief at 50-51.

that PG&E failed to follow these procedures to create records required for a clearance for work performed at the Milpitas Terminal on September 9, 2010.³⁰¹ “The work procedure provides very specific instructions designed to lead operating and maintenance personnel through a project in a way that will ensure the safety of the worker, the plant and the public.”³⁰² This would include providing step-by-step guidance for the project so that employees could troubleshoot any problems. CPSD notes, however, that the clearance application submitted for approval on August 27, 2010 was “substantially incomplete.”³⁰³ Additionally, CPSD notes that PG&E performed the maintenance work with a minimum work crew that did not include an engineer, a supervisor and a control operator.³⁰⁴ CPSD believes that if PG&E had prepared an adequate Clearance Procedure, it could have made recovery quicker, as every change that had been made to the electrical system would have been fully documented.³⁰⁵ Therefore, CPSD contends that PG&E violated Pub. Util. Code § 451 by failing to follow its procedures to create records required for a clearance for work performed at the Milpitas Terminal. CPSD contends that this is a continuing violation that began 10 business days before starting work.

PG&E concedes that the clearance documentation for the electrical work at Milpitas Terminal did not fully comply with its written clearance policy and

³⁰¹ CPSD Opening Brief at 51.

³⁰² CPSD Opening Brief at 51.

³⁰³ CPSD Opening Brief at 52.

³⁰⁴ CPSD Reply Brief at 48-49.

³⁰⁵ CPSD Opening Brief at 50.

procedure, and thus constituted a violation of 49 CFR 192.13(c).³⁰⁶ However, it notes that despite the shortcoming in clearance documentation, the field crew conducting the electrical work did communicate with gas control operators and kept them “informed of the status and potential impacts of the work.”³⁰⁷ PG&E’s witnesses further testified that the work would impact data going into SCADA, not gas flowing into the line.³⁰⁸

There is no dispute that PG&E violated Work Procedure WP4100-10. As outlined in WP4100-10, the Clearance Coordinator was to confirm that the clearance package was complete and all forms were filled out completely.³⁰⁹ Clearance for installation of a new uninterruptible power supply (UPS) at the Milpitas Terminal consisted of two steps:

1. Report on daily
2. Report off³¹⁰

These steps provide no information regarding the work that had actually been performed. In fact, the work was more than just replacing a UPS at the Milpitas Terminal. PG&E employee “Larry” states “while they were doing that [installing a new UPS at Milpitas Terminal], they had to do the genius block and

³⁰⁶ PG&E Opening Brief at 74.

³⁰⁷ PG&E Opening Brief at 75.

³⁰⁸ 2 Joint RT at 150:24-26 (PG&E/Kazmirsky).

³⁰⁹ P3-10034 at 1.

³¹⁰ Exh. CPSD-18 (Disc 28) PG&E Response to CPSD Data Request 47, Q 4 at 7. (OIR_DR_47_Q04_Attch_1.pdf). Utility Work Procedure WP4100-10 states that “Reporting On” refers to work commencing, while “Reporting Off” refers to work completed. (P3-10034 at 6 & 7.)

all the other stuff and bam. So it's safer to say replacing the UPS."³¹¹ Larry goes on further to describe that the genius block is the "thinking part" of the Programmable Logic Controller (PLC). As described in the O&M Instructions manual for the Milpitas Terminal, the PLC "monitors operating data from field transducers and provides automatic flow control algorithms for the incoming line."³¹² In other words, the PLC would control whether the valves are open or closed. Given the critical nature of the genius block "and all the other stuff", the Clearance Procedure should have included more steps than "report on daily" and "report off."

Notwithstanding PG&E's assertion that there was communication between the work crew and Gas Control operators regarding the work, we agree with CPSD that there was no written record to determine what work had been performed. By failing to provide the required records, PG&E violated its own procedures for ensuring the safety of its employees and customers for the work performed. This is true regardless of the events following the installation project. As such, we find that failure to provide the proper clearance procedures constitutes a violation of Pub. Util. Code § 451.³¹³

³¹¹ TRANSCRIPT_SF_9.9.2010_2.05.43_PM_11.57.23_PM_20110113.pdf at 9.9.2010_7.39.36_PM_607939000394100_002. Earlier in the transcript, Larry describes the events leading up to the explosion and states "They were replacing the genius block under a regular clearance that was approved."
(TRANSCRIPT_SF_9.9.2010_2.05.43_PM_11.57.23_PM_20110113.pdf at 9.9.2010_7.39.36_PM_607939000394100_001.)

³¹² Exh. PG&E-32 (OIR_DR_01_Q01b_Atch_42.pdf) at 77.

³¹³ PG&E discusses in great detail why the "shortcoming" in its clearance documentation should not be considered severe. (PG&E Opening Brief at 74-76.) This discussion, however, is relevant to determining the appropriate penalty, not whether there is a violation.

We agree with CPSD that this should be considered a continuing violation. PG&E submitted its clearance paperwork on August 27, 2010. It could have revised this paperwork any time between then and September 9, 2010, the date the work was performed.

7.3.2. Violation 6: Operations and Maintenance Instructions

On July 5, 2011, CPSD send a data request to PG&E asking it to identify “all records stored and maintained at the Milpitas Station as of September 9, 2010.”³¹⁴ Attachment 2 of PG&E’s response lists the inventory of the Milpitas Terminal documents, which includes “O&M Instructions for Milpitas Terminal (Issued 1991, January 2011 update)”.³¹⁵ CPSD states that based on the date of this version of the O&M instructions, the January 2011 update was not at the Milpitas Terminal on September 9, 2010. CPSD further states that because PG&E could not conclusively determine that the then-current version of the O&M manual (issued in 2009) was at the Milpitas Terminal on September 9, 2010, “the Commission should conclude that the O&M manual was not current and may have been as old as Version 0 from 1991.”³¹⁶

CPSD asserts that since procedures and equipment at a particular facility change over time, incorrect decisions could be made based on the outdated information contained in the manual.³¹⁷ It notes that 49 CFR 192.615 requires

³¹⁴ Exh. CPSD-18 Gas Transmissions Systems Records OII_DR_Legal Division_001-Q07.pdf.

³¹⁵ Exh. CPSD-18 (Disk Exhibits 2: Felts Public Initial and Supplemental Testimony Exhibits) Summary Inventory of Milpitas Documents GasTransmissionsSystemsRecordsOII_DR_LegalDivision_001-Q07attach_2.pdf at 3. PG&E’s response was submitted to CPSD on August 1, 2011.

³¹⁶ CPSD Opening Brief at 55.

³¹⁷ CPSD Opening Brief at 56.

pipeline operators to maintain effective emergency procedures and written material, and effective training in implementing them. Based on its belief that there was an outdated manual, CPSD contends that PG&E created unsafe operating conditions at the Milpitas Terminal in violation of Pub. Util. Code § 451.

PG&E contends that CPSD's assertions are speculative. It states that it has informed CPSD that the Milpitas Terminal's operating manual has been updated five times prior to September 9, 2010, and that a hardcopy of version 6 of that manual (dated 2009) was at the Milpitas Terminal on September 9, 2010.³¹⁸ PG&E maintains that CPSD has elected to ignore this response, but fails to provide any evidence to support its theories other than PG&E's responses to the July 5, 2011 Data Request.³¹⁹

We agree with PG&E. CPSD is requesting that we conclude that while the O&M Instructions manual for the Milpitas Terminal was revised 5 times since 1991, no hard copy version of the updates were sent to Terminal. However, CPSD does not explain how such a conclusion is supported by the evidence. Indeed, the record in this proceeding supports a conclusion that PG&E did have the 2009 version of the O&M Instructions manual at the Milpitas Terminal on September 9, 2010. While it is true that PG&E's response to Data Request 1, question 7 does not accurately reflect "all records stored and maintained at the

³¹⁸ PG&E Opening Brief at 78-79; PG&E Reply Brief at 55-56. PG&E also refers to its response to Data Request 30, question 9, where it responded "Yes" to the question "Was there a hard copy version of the most recent Operating and Maintenance instructions at the Milpitas Terminal ("Terminal") on September 9, 2010?" (GasTransmissionsSystemsRecordsOII_DR_CPUC_030-Q09.pdf.)

³¹⁹ PG&E Opening Brief at 76.

Milpitas Station as of September 9, 2010,” PG&E did clarify in a subsequent data response that a hard copy version of the most recent O&M Instructions was at the Milpitas Terminal on September 9, 2010. Based on the record presented before us, we find that while PG&E was sloppy in responding to CPSD’s July 5, 2011 data response, this does not rise to the level of a violation of Pub. Util. Code § 451. Accordingly, there is no basis for finding a violation in this instance.

7.3.3. Violation 7: Drawing and SCADA Diagrams of the Milpitas Terminal

In addition to alleging that PG&E had an outdated O&M Instructions manual at the time of the San Bruno explosion and fire, CPSD also contends that PG&E did not have an updated hard copy drawing of the Milpitas Terminal pipelines system at the Milpitas Terminal and failed to update the electronic Supervisory Control and Data Acquisition System (SCADA) diagrams to accurately display and pipelines and valve positions.³²⁰ CPSD states that PG&E has admitted that the drawing that shows a schematic of piping and valves for the Milpitas Terminal and the computer diagram for the Milpitas Terminal were inaccurate.³²¹ CPSD contends that inaccuracies in the drawing and the computer diagrams were responsible for some of the confusion experienced at the Milpitas Terminal and the San Francisco Control Room on September 9, 2010.

Among other things, CPSD notes that the 30-300 By-pass line was not visible to the control room operators on the SCADA display diagram. CPSD states that this by-pass line was “installed for emergency purposes so that PG&E could supply gas to the Peninsula in the event that the Terminal became

³²⁰ CPSD Opening Brief at 57.

³²¹ CPSD Opening Brief at 57-58.

inoperative.”³²² CPSD asserts that safe operating conditions require that all gas lines designed and installed for use during emergencies should be displayed and concludes that “the absence of this information in SCADA during the September 9, 2010 emergency was a safety issue.”³²³

CPSD contends PG&E personnel could make incorrect decisions as a result of inaccurate drawings of the Milpitas Terminal. As a result, CPSD believes that “operators lacked the data essential for fully understanding what was happening in [PG&E’s] gas transmission system when things went wrong at the Milpitas Terminal on September 9, 2010.”³²⁴

CPSD notes that PG&E’s internal policies, including the PG&E Guide to Records Retention,³²⁵ required PG&E to retain, for the life of the facilities, all engineering records pertinent to the facilities. By failing to have the necessary (accurate) drawing and computer diagrams of the Milpitas Terminal, CPSD alleges that PG&E violated both its internal policies and Pub. Util. Code § 451. CPSD contends that these violations began at least in 2008, the date of the last change to operating drawing # 383510 (Milpitas Operating Diagram), and continued until September 9, 2010.³²⁶

PG&E does not dispute that there was incorrect information regarding valve and pipelines on the drawing of the Milpitas Terminal or that the 30-300 by-pass line was not on the SCADA display on September 9, 2010. However,

³²² CPSD Opening Brief at 59.

³²³ CPSD Opening Brief at 59.

³²⁴ CPSD Opening Brief at 60.

³²⁵ Documents P2-212, P2-225, and P2-227.

³²⁶ In its reply brief, CPSD changed the starting date of the alleged violation to December 2, 2009 in response to comments in PG&E’s Opening Brief. (CPSD Reply Brief at 53.)

PG&E disputes that the drawing of the Milpitas Terminal were out-of-date or inaccurate. It states that the updated drawings reflected operational changes ordered by the Commission after the San Bruno explosion and that the corrected valve and pipeline information was unrelated to the events on September 9, 2010.³²⁷ Similarly, PG&E contends that the “missing” by-pass line on the SCADA display was not involved in the events of September 9, 2010.³²⁸ PG&E notes that the alternate station bypass system was added to the SCADA display on October 27, 2010 for “operational reasons unrelated to the events of September 9, 2010.”³²⁹

We agree with PG&E that operating drawing # 383510 would not be inaccurate or outdated to the extent the updates reflect orders by the Commission after September 9, 2010. However, the same cannot be said of corrections identified by PG&E, such as the November 2010 correction of the MAOP of Line 100 and the January and July 2011 corrections to pipe information. These corrections support CPSD’s assertions that the operating drawing were inaccurate or out of date. We do not agree with PG&E’s theory that the inaccuracies are not violations or present no safety concerns merely because they were “unrelated” the San Bruno explosion. The fact that the inaccuracies in this instance may not directly relate to the San Bruno explosion does not mean there is no violation. As noted by CPSD, “[c]urrent and accurate facility drawings are essential to the safe operation of a gas transmission system.”³³⁰

³²⁷ PG&E Opening Brief at 81; see also Exh. PG&E-61 at 4-19 – 4-20.

³²⁸ PG&E Opening Brief at 82.

³²⁹ PG&E Opening Brief at 82.

³³⁰ CPSD Reply Brief at 53.

We further agree with CPSD that PG&E's failure to include the 30-300 by-pass line on the SCADA display constitutes unsafe operation of PG&E's gas transmission system. The by-pass line was purposely installed for emergency purposes. PG&E, however, only appears to display lines that are used in "daily" operations, and states that it only decided to display the 30-300 by-pass line because PG&E contemplated using this line on a daily basis.³³¹ However, common sense would suggest that having a by-pass line appear and disappear on the SCADA display based on whether the line is used daily or only for emergencies would be confusing to gas systems operators. This is especially true when a SCADA display that did not show the by-pass line would be inconsistent with the drawing of the Milpitas Terminal facility.³³²

Based on the above, we find that PG&E violated Pub. Util. Code § 451 by failing to have accurate drawings and SCADA diagrams. We adopt CPSD's proposed starting date of December 2, 2009, which is the date of the drawing provided to CPSD.³³³ We agree that the violation is a continuing violation, which would run until the errors were corrected. As we have discussed previously, PG&E is tasked with ensuring that the information in the terminal drawing and the SCADA diagrams are accurate. Since PG&E maintains control of the drawings and SCADA information, it could, and should, have reviewed these

³³¹ PG&E Opening Brief at 81. Is it somewhat confusing whether the by-pass line will continue to be visible on the SCADA display. PG&E states in the same sentence that the by-pass line was contemplated for "daily use" and configured visibility so that gas systems operators would see a line that "would be temporarily used."

³³² CPSD Opening Brief at 59.

³³³ CPSD Reply Brief at 53.

documents on a regular basis to ensure the information is correct. Had it done so, it would likely have discovered the errors prior to September 9, 2010.

We find that the violations continued until the errors were corrected. For the drawings of the Milpitas Terminal, the termination date would be July 2011. For the SCADA display, the end date would be October 27, 2010.

7.3.4. Violation 8: Back-up Software at Milpitas Terminal

Immediately before the San Bruno explosion and fire, the Milpitas Terminal lost electrical power. As a result the valve controllers no longer functioned properly to control line pressure. CPSD contends that once power was restored, PG&E did not have the software or cable connection needed to reprogram the three valve controllers that experienced problems.³³⁴ CPSD notes that PG&E's Operating and Maintenance Instructions Manual required a copy of back-up software on site at the Milpitas Terminal.³³⁵ By failing to have a copy of back-up software on site, CPSD contends that PG&E violated its own policies. CPSD further alleges that failing to retain a copy of the backup software on-site created a safety risk, in violation of § 451.³³⁶ It states that the "loss of programming that cannot be immediately restored renders equipment inoperative" and could "expose employees and the public to potential catastrophic pipeline and/or equipment failures" at the Terminal and/or on PG&E's gas pipeline system.³³⁷

³³⁴ CPSD Opening Brief at 62.

³³⁵ CPSD Opening Brief at 61.

³³⁶ CPSD Opening Brief at 61.

³³⁷ CPSD Opening Brief at 62.

PG&E acknowledges that the gas technician at the Milpitas Terminal did not have the software or cable connection to reprogram the three valve controllers that had experienced problems. However, it asserts that the malfunction would not have been resolved any faster if the technician had the software or cable.³³⁸ Moreover, PG&E maintains that the lack of software and cable played no role in the response to the unexpected pressure increase and that the valve controllers continued to function as normal. Finally, PG&E notes that the backup software to be retained on-site is for the PLC system, not the valve controllers.³³⁹ Therefore, PG&E asserts that CPSD has failed to establish any basis for the alleged substantive violation.

We are not convinced by PG&E's arguments. As an initial matter, the transcript of the Milpitas Terminal suggests that the valve controllers were not functioning normally, since once the genius block failed "it opened a couple of the valves that weren't supposed to go open."³⁴⁰ Additionally, PG&E's testimony and briefs suggest that the valve controllers and the PLC operate independent of each other. However, the O&M Instructions manual suggests otherwise, stating "The 3 Ethernet Interface modules in each PLC rack are to provide communication with the Process Automation Controllers (PAC).³⁴¹ The PACs control the electrically operated regulating valves.³⁴²

³³⁸ PG&E Opening Brief at 84.

³³⁹ PG&E Opening Brief at 85; see also Exh. PG&E-32 (OIR_DR_01_Q01b_Atch_42.pdf) at 78.

³⁴⁰ TRANSCRIPT_SF_9.9.2010_2.05.43_PM_11.57.23_PM_20110113.pdf at 9.9.2010_7.39.36_PM_607939000394100_001.

³⁴¹ Exh. PG&E-32 (OIR_DR_01_Q01b_Atch_42.pdf) at 78.

³⁴² Exh. PG&E-32 (OIR_DR_01_Q01b_Atch_42.pdf) at 79.

Finally, PG&E is wrong that a violation can only be found if CPSD can prove that “the unavailability of the backup software was involved in the unplanned pressure increase, or hindered PG&E’s response thereto, in any way.”³⁴³ As CPSD explained, this alleged violation related to record or data related violations that could be tied directly or indirectly to the pipeline failure and explosion at San Bruno.³⁴⁴ Thus, contrary to PG&E’s arguments, the violations alleged in this proceeding are not limited to the factors contributing to the San Bruno explosion on September 9, 2010.

CPSD notes that in order for PG&E to operate its gas transmission system in a manner that is safe at all times, PG&E employees must have the necessary software to respond to an emergency.³⁴⁵ CPSD notes that backup software is an electronic record and should have been readily available to ensure safe operation of PG&E’s gas transmission system. We agree. The conversation among PG&E personnel on September 9, 2010 included significant discussion over why the controllers were not working and the need to fix this problem. By failing to have the necessary backup software readily available, PG&E violated Pub. Util. Code § 451.

We agree with CPSD that this should be considered a continuing violation. However, we do not find the arguments presented by CPSD on the starting date of the violation to be persuasive. In this instance, CPSD selects a beginning date of 2008, stating that it “represents a conservative assumption that PG&E had the

³⁴³ PG&E Reply Brief at 59.

³⁴⁴ CPSD Opening Brief at 24.

³⁴⁵ CPSD Reply Brief at 55.

proper back-up software in 2008.”³⁴⁶ CPSD, however, fails to explain the basis for this “conservative assumption.” We do not find it reasonable to establish a beginning date for this violation based on an unexplained and unjustified “conservative estimate.” In the absence of any means to set the duration for the continuing violation, we conclude that in this instance the violation be set as a single day – September 9, 2010.

7.3.5. Violation 9: Supervisory Control and Data Acquisition System

The SCADA system is used by operators in PG&E’s Gas Control to continuously monitor and operate the gas transmission system. It is equipped with alarms that are triggered to alert Gas Control that a line may be approaching above- or below-normal pressures. Operators may then control pressure in transmission lines through the use remotely-controlled valves and compressor stations along PG&E’s transmission system.³⁴⁷

CPSD states that under PG&E’s policies, once an alarm is sounded, Gas Control operators are to acknowledge the alarms and then have 10 minutes to analyze and respond to the alarm.³⁴⁸ However, on September 9, 2010, many alarms went unacknowledged and the operators could not analyze and respond to the problem within the specified time.

CPSD maintains that “a company that chooses to monitor its system using electronic communication is [] required to create, operate and maintain an electronic system that will promote safety in the operation of the transmission

³⁴⁶ CPSD Opening Brief at 63

³⁴⁷ PG&E June 20, 2011 Response at 6B-13 & 6B-16.

³⁴⁸ CPSD Opening Brief at 64.

system.”³⁴⁹ However, CPSD believes that the information in the SCADA system is deficient. As support, CPSD notes that the NTSB had found that “PG&E’s supervisory control and data acquisition system limitations contributed to the delay in recognizing that there had been a transmission line break and quickly pinpointing its location.”³⁵⁰ CPSD therefore contends PG&E violated Pub. Util. Code § 451 by failing to provide its control room operators with accurate and useable SCADA displays. CPSD alleges that this is a continuing violation from 2008 to 2010.

PG&E concedes that the SCADA system displayed both reliable and unreliable data due to power issues and the pressure increase at the Milpitas Terminal on September 9, 2010. Due to the large number of alarms triggered at the time and the inability to determine the reliability of all the alarms, gas control operators did not respond immediately to the low-low alarms at Martin Station.³⁵¹ However, PG&E maintains that operators were able to take appropriate remedial steps to address the pressure increase at the Milpitas Terminal.³⁵² PG&E states that Line 132 ruptured before the remedial steps could take effect.

PG&E further disputes that it took gas system operators thirty minutes to recognize that there was a drop in pressure. It states that gas system operators

³⁴⁹ CPSD Opening Brief at 64.

³⁵⁰ CPSD Opening Brief at 65.

³⁵¹ Exh. PG&E-61 at 4-27 (Slipsager/Kazmirsky).

³⁵² PG&E Opening Brief at 86-87.

were notified by Concord Dispatch twelve minutes after the first low pressure indication came on to report that there were flames in the San Bruno area.³⁵³

PG&E's arguments are not persuasive. As its witnesses have testified, SCADA information on September 9, 2010 was not entirely reliable due to power issues and the pressure increase at the Milpitas Terminal.³⁵⁴ Consequently gas control operators could not fully utilize the SCADA system to analyze the incoming alarms or detect the location of the pipeline rupture. Further, PG&E's own testimony indicates that it was only after gas control operators were contacted by Concord Dispatch regarding a report of flames in the San Bruno area that they established that the low pressure alarm at Martin Station was reliable.

As we have discussed in Violation 7 above, PG&E has violated Pub. Util. Code § 451 by failing to have accurate SCADA diagrams on September 9, 2010. We believe that the allegations raised by CPSD here are part of that violation, not a separate violation. Accordingly, while we agree with CPSD that PG&E was unable to utilize its SCADA system to quickly identify and address the low pressure alarms at Milpitas Terminal, we do not find this to be a separate violation.

7.3.6. Violation 10: Emergency Response Plans

CPSD notes that federal regulations require each pipeline operator to "establish written procedures to minimize the hazard resulting from a gas pipeline emergency" and specify the minimum information the procedures must contain, including procedures for the prompt and effective response to an

³⁵³ PG&E Opening Brief at 87-88.

³⁵⁴ Exh. PG&E-61 at 2-26.

“explosion occurring near or directly involving a pipeline facility.”³⁵⁵ CPSD contends that the PG&E’s emergency response plans were ineffective in guiding personnel during the San Bruno incident because it was complex and difficult for personnel to implement.³⁵⁶ CPSD notes that the checklists for overpressure situations and fire/explosion situations were vague regarding the actions to be taken and the responsible employee. Further, it notes that managers off-site had to explain the emergency process to gas control operators. Based on these facts, CPSD contends that there was a problem in the way the emergency plan was written and/or accessed and the plan did not serve the needs of PG&E employees and the public. CPSD therefore asserts that PG&E violated § 451 because its emergency response plan contributed to delays in responding to the pipeline explosion in San Bruno.³⁵⁷

PG&E contends that CPSD’s arguments are unfounded. It first notes that CPSD had audited PG&E’s emergency response plans in 2009 and 2010 and did not find them to be deficient or difficult to use.³⁵⁸ PG&E further states that PG&E witness Bull had reviewed the emergency plan and concluded that it was compliant with all applicable regulatory guidance.³⁵⁹ Finally, PG&E argues that CPSD witness Felts had concluded that the emergency plan was “too difficult to use” based on hindsight and without the benefit of any training on the plan.³⁶⁰

³⁵⁵ 49 CFR 192.615(a)(3)(iii).

³⁵⁶ CPSD Opening Brief at 66.

³⁵⁷ CPSD Opening Brief at 67.

³⁵⁸ PG&E Opening Brief at 90.

³⁵⁹ PG&E Opening Brief at 91; see also, Exh. PG&E-61 at 4-43 – 4-46.

³⁶⁰ PG&E Opening Brief at 93.

We find that CPSD has failed to provide sufficient evidence to support a conclusion that PG&E's emergency response plan was difficult to use or contributed to delays in responding to the pipeline explosion in San Bruno. PG&E's emergency response plan is to be used by transmission district field personnel when responding to an emergency. PG&E has stated that these individuals have been trained on the plan.³⁶¹ PG&E notes that CPSD's witness Felts was not trained on the plan. As stated by PG&E witness Bull "A person unfamiliar with the organization and text of an operator's emergency plan, and without the training, skills, and knowledge assessments required by the plan for emergency responders, may well be confused by the plan's layout and organization."³⁶² Consequently, we do not find Ms. Felts' criticism of the organization of PG&E's emergency response plan to support CPSD's allegation that it was difficult to use and contributed to PG&E's delay in responding to the San Bruno explosion.

7.4. Violations Arising from CPSD Investigation

CPSD contends that PG&E impeded its investigation of the San Bruno explosion and fire by failing to provide requested information. Violations 12 and 13 concern whether PG&E had a video recording of the Brentwood control room on September 9, 2010. Violation 14 concerns whether PG&E failed to fully respond to CPSD's data request regarding PG&E personnel at the Milpitas Terminal on September 9, 2010.

7.4.1. Violation 12: Preservation of Records Related to Brentwood Video Camera Six and Violation 13:

³⁶¹ Exh. PG&E-61 at 4-35:13-23.

³⁶² Exh. PG&E-61 at 4-51:22-25.

**PG&E Data Responses Regarding Brentwood
Camera Six Video**

7.4.1.1. Background

PG&E's Gas Control room is located in San Francisco, with a backup control room in Brentwood. The Brentwood facility is generally unoccupied, and there are video surveillance cameras to monitor security system activation events. Camera 6 monitors the Brentwood control room. On the evening of September 9, 2010, there were gas personnel at both the San Francisco and the Brentwood control rooms as part of PG&E's quarterly testing of the Brentwood facility.³⁶³

On September 13, 2010, the Commission's Executive Director sent a letter to PG&E directing, among other things that it:

- 7) Preserve all records related to the incident, including work at the Milpitas Terminal during the month of September 2010);
- 8) Preserve all records related to the maintenance or modification of Line 132 by PG&E and/or its contractors performed within the City of San Bruno over the past ten (10) years³⁶⁴

This letter was subsequently affirmed by the Commission in Resolution L-403, issued on September 24, 2010.³⁶⁵ In addition, PG&E's General Counsel issued an email on September 11, 2010 to all employees regarding records retention. This email, titled "URGENT: Document Retention Relating to 9/9/10 San Bruno Incident", required employees to:

³⁶³ Exh. CPSD-65 at 3:101- 4:125.

³⁶⁴ Exh. PG&E-26 at 1.

³⁶⁵ Exh. PG&E-27 at 12 (OP 16 & 17).

Preserve in its present state any potentially relevant information and, in the case of any doubt, to preserve information. We want nothing discarded that **may** contain potentially relevant information.

1. Potentially relevant information" includes all paper and electronic documents (as described further below) ... that relate in any way to any potential gas leak or report of a potential gas leak in San Bruno, the events of September 9, 2010 in San Bruno, or the operations, maintenance, and controls of the Company's natural gas transmission or distribution systems in general and in San Bruno in particular. If you have any doubt as to whether information is potentially relevant, then you must preserve that information.³⁶⁶

On September 21, 2011, CPSD issued Data Request 8. Question 16 of that data request asked for "complete, unedited, and unredacted copies of all video recordings and audio recordings from the Gas Control Rooms in San Francisco and Brentwood for the period 4 p.m. September 9, 2010 through 6 a.m. September 10, 2010."³⁶⁷ On October 10, 2011, PG&E responded that there was no video from the Brentwood control room because

[v]ideo is recorded and retained on a digital video recorder until it is automatically overwritten when the disk array becomes full, which occurs after approximately 60 days. The video recording from the Brentwood facility for September 9 and 10, 2010, was overwritten in this manner.³⁶⁸

PG&E subsequently revised its response on March 9, 2012. In the revised response, PG&E stated that it had mistakenly believed the video recording of the

³⁶⁶ Exh. PG&E-28 at 1-2 (emphasis in original).

³⁶⁷ Exh. CPSD-18 (Disc 16) GasTransmissionSystemRecordsOII_DR_CPUC_008-Q16 at 1.

³⁶⁸ Exh. CPSD-18 (Disc 16) GasTransmissionSystemRecordsOII_DR_CPUC_008-Q16 at 1.

Brentwood control room had been overwritten when in fact no recording ever existed. PG&E explained that it had recently discovered the digital video recorder for Camera 6 had never been configured to record.³⁶⁹

7.4.1.2. Parties' Positions

CPSD alleges two violations related to this event. First, it asserts that PG&E failed to comply with the records preservation requirements (Violation 12).³⁷⁰ It notes that neither of PG&E's responses states that PG&E "took any steps to comply with the preservation order" because PG&E's revised response suggests that PG&E had failed to check Camera 6 to determine whether it was actually recording and to disengage the overwriting function.³⁷¹ Second, CPSD states that PG&E's contradictory statements misled Commission staff and impeded staff's fact-finding process. Thus, CPSD alleges in Violation 13 that PG&E's actions resulted in a violation of Rule 1.1 of the Commission's Rules of Practice and Procedure (Rule 1.1).³⁷²

PG&E disputes CPSD's assertions. It contends that there could not have been a violation of the preservation order because there was no video to preserve. PG&E further argues that the "security camera at the Brentwood facility provides no information other than possibly assisting in identifying the

³⁶⁹ CPSD Opening Brief at 76; see also Exh. PG&E-25 at 2 (stating that Camera 6 was connected to the Brentwood Terminal DVR, but due to an installation error, Camera 6 did not record).

³⁷⁰ CPSD Opening Brief at 77.

³⁷¹ CPSD Opening Brief at 79.

³⁷² CPSD Opening Brief at 83.

physical movements of operators; it provides no operational information that would have informed CPSD's investigation."³⁷³

PG&E also contends that there is no violation of Rule 1.1. While it concedes that its original data response contained incorrect information, PG&E states that CPSD was never misled with respect to the "central fact in the data response – that the video did not exist." Further, PG&E maintains that it had no intention of misleading the Commission and did not know it had provided incorrect information when it submitted its response on October 10, 2011. Finally, PG&E notes that it self-disclosed as soon as it discovered the incorrect information. This action, PG&E argues, demonstrates that its mistake was "unknowing and unintentional."³⁷⁴

7.4.1.3. Discussion

We agree with PG&E that the central fact is that the video recording for Camera 6 does not exist. However, this fact is not the basis of CPSD's alleged violations, but rather the reasons why this is the case. In its Opening Brief, CPSD had argued in Violation 12 that no video recording of Camera 6 exists because PG&E failed to preserve the recording. However, in its Reply Brief, CPSD withdrew Violation 12 with no explanation. Thus, the only issue here is whether PG&E's October 10, 2011 data response about the video recordings for Camera 6 misled Commission staff and impeded their investigation in violation of Rule 1.1, as alleged in Violation 13.

The e-mail from PG&E's General Counsel specifically directed employees to preserve "any potentially relevant information, and in the case of any doubt,

³⁷³ PG&E Opening Brief at 96.

³⁷⁴ PG&E Opening Brief at 99.

to preserve information.”³⁷⁵ It further emphasized: “If you have any doubt as to whether information is potentially relevant, then you must preserve that information.”³⁷⁶ PG&E witness Cochran testified that the cameras in Brentwood facility were to address security needs, not operational needs.³⁷⁷ As such, the security personnel did not think the directive from PG&E General Counsel applied to security matters. However, these PG&E employees did not make any further inquiries to Corporate Affairs to see if the security tapes at Brentwood facility would be covered under the preservation order.³⁷⁸ Thus, despite having doubts whether the tapes were subject to the preservation order, no further inquiries or efforts to preserve the video recordings were made. PG&E’s General Counsel’s e-mail clearly notes that determination of relevance (and thus, the need to preserve a record) was to be made by Corporate Affairs, not line employees. Regardless, the directives were to err on the side of caution, and preserve all records. Had PG&E security employees made efforts to preserve the video recordings as required by both the Commission and PG&E’s General Counsel, they would have discovered that Camera 6 had not been properly configured shortly after the San Bruno explosion, rather than 18 months later.³⁷⁹

³⁷⁵ Exh. PG&E-28 at 1.

³⁷⁶ Exh. PG&E-28 at 2.

³⁷⁷ 10 RT at 1520:14-16 (PG&E/Cochran).

³⁷⁸ 10 RT at 1528:21 – 1529:6 (PG&E/Cochran).

³⁷⁹ Although not within the scope of this investigation, we find PG&E’s failure to verify that the security system for the unmanned Brentwood Facility had been properly installed and configured to work as specified to be of concern. Equally troubling is PG&E’s admission that, although its procedures call for annual inspection of all security cameras and systems, the security cameras at the Brentwood Facility have not been inspected for over two years. (10 RT at 1529:37 – 1530:8 (PG&E/Cochran).)

Although PG&E is correct that there was no video recording of Camera 6 to preserve, it would not have known this to be a fact until after checking the camera to see if there was a recording. The failure to inquire whether the preservation order applied to security recordings at the Brentwood Facility, and then to check for a video recording in Camera 6, meant that PG&E's response to CPSPD's data request was incorrect and misleading.

We disagree with PG&E that there was no violation of Rule 1.1 because PG&E had not intended to mislead the Commission in its October 10, 2011 data response. Rule 1.1 states:

Any person who signs a pleading or brief, enters an appearance, offers testimony at a hearing, or transacts business with the Commission, by such act represents that he or she is authorized to do so and agrees to comply with the laws of this State; to maintain the respect due to the Commission, members of the Commission and its Administrative Law Judges; and *never to mislead the Commission or its staff by an artifice or false statement of fact or law*.³⁸⁰

Under Rule 1.1, there is no requirement that there be an intention to mislead the Commission. Rather, prior Commission decisions have held that a violation of Rule 1.1 can result from a reckless or grossly negligent act. As we have previously held:

there is also a line of Commission decisions which holds that situations involving a failure to correctly cite a proposition of law, a lack of candor or withholding of information, and a failure to correctly inform and to correct the mistaken information, are actionable Rule 1 violations. (See D.93-05-020, D.92-07-084, D.92-07-078, D.90-12-038.) We believe that this

³⁸⁰ Rules of Practice and Procedure, Rule 1.1 (emphasis added).

line of decisions supports the proposition that a violation of Rule 1 can result from a reckless or grossly negligent act. The misleading or misrepresentation that occurs as a result of the reckless or grossly negligent act can cause the Commission to expend additional staff resources in trying to resolve the misleading statement.³⁸¹

Moreover, as we noted in D.01-08-019, “the question of intent to deceive merely goes to the question of how much weight to assign to any penalty that may be assessed. The lack of direct intent to deceive does not necessarily, however, avoid a Rule [1.1] violation.”³⁸²

In this instance, PG&E may very well have mistakenly believed that the video in Camera 6 had been overwritten. However, this conclusion was because it had failed to verify that its security system had been configured to operate as specified, failed to take steps to preserve any recordings from the security cameras at the Brentwood Facility, and failed to inquire with Corporate Affairs whether the security tapes were subject to the preservation order. We find PG&E’s actions to be grossly negligent, as PG&E could and should have discovered that Camera 6 had not been properly configured shortly after the San Bruno explosion and fire. Based on its negligence, PG&E’s provided incorrect information, which caused staff to expend additional time and resources. We

³⁸¹ *Re Facilities-based Cellular Carriers and Their Practices, Operations and Conduct in Connection with their Siting of Towers* (D.94-11-018) (1994) 57 Cal. PUC 2d 176, 204; see also, *Order Instituting Investigation Into Southern California Edison Company's Electric Line Construction, Operation, and Maintenance Practices Southern California Edison Company* (D.04-04-065) 2004 Cal. PUC LEXIS 207 at *53.

³⁸² *In re Competition for Local Exchange Service; Order Instituting Investigation on the Commission's Own Motion into Competition for Local Exchange Service* (D.01-08-019) (2001) 2001 Cal. PUC LEXIS 653 at *14.

therefore find that PG&E violated Rule 1.1 at the time it submitted its October 10, 2011 data response.

Finally, PG&E appears to suggest that there is no harm even if it had failed to preserve the video recording, since it believes there was little valuable information that could have been obtained from the recording. PG&E is reminded that a violation under Rule 1.1 is not based on whether the attempt to mislead the Commission or its staff resulted in harm. Moreover, it is up to CPSD to determine the value of information obtained from its data responses, not PG&E. Indeed, as testified by witness Felts,

The video would have helped us understand who was present, what hours they were present, who was sitting at the controls. What we would have been able to see at least on two of the dashes or the computers what was being viewed, if anything, was being viewed. So there is quite a bit of information that we could have obtained that would have covered the entire time that people were present in the facility.³⁸³

For the reasons stated above, we find that PG&E violated Rule 1.1 of the Commission's Rules of Practice and Procedure. We find this to be a continuing violation that began on October 10, 2011, the date of PG&E's initial response, and continued until March 9, 2012, the date PG&E provided the amended response.

**7.4.2. Violation 14: PG&E Data Responses
Regarding Personnel at Milpitas Terminal on
September 9, 2010**

As part of its investigation in this proceeding, CPSD issued various data requests requesting PG&E to identify all employees present at the Milpitas

³⁸³ 2 RT at 242:26-243:7 (CPSD/Felts).

Terminal who were working on the pressure problem on September 9, 2010.³⁸⁴ CPSD states that PG&E's data responses failed to identify the Supervisor for the Milpitas Terminal, who was present after 5:00 p.m. It contends that this individual was not drug tested or deposed after the incident, and theorizes that the NTSB never learned that he had been present. CPSD contends that PG&E's omission of the Supervisor's presence at the time of the incident was a false or misleading statement under Rule 1.1 and prejudiced CPSD's investigation.³⁸⁵

PG&E maintains that CPSD's data requests failed to ask PG&E to identify the people in Milpitas Terminal handling the pressure problem on September 9, 2010 or who were present at the Milpitas Terminal after 5:00 p.m. on that date. PG&E contends that since these questions were not asked, it did not provide the name of the Supervisor in its data responses.³⁸⁶ PG&E believes that it "provided good faith and complete responses to the questions it understood CPSD to be asking."³⁸⁷ Therefore, it states that CPSD has failed to establish that "PG&E acted with purposeful intent, recklessness or gross negligence" when responding to the data requests.

We do not find PG&E's explanations why it did not include the name of the Supervisor in its response to CPSD's data requests to be persuasive. PG&E states that it "understood CPSD to be asking PG&E to identify the personnel on the field crew who were involved in responding to the power and pressure

³⁸⁴ CPSD Opening Brief at 84.

³⁸⁵ CPSD Opening Brief at 86.

³⁸⁶ PG&E Opening Brief at 100-102. PG&E further notes that this individual was the acting Supervisor for the Milpitas Terminal, and therefore was not headquartered at the Milpitas Terminal. (PG&E Opening Brief at 101.)

³⁸⁷ PG&E Opening Brief at 102.

issues at Milpitas Terminal.”³⁸⁸ Based on the San Francisco Control Room transcript, the Supervisor was working with one of the employees identified in PG&E’s response to Data Request (DR) 8, Q. 8.d to “figure out what went wrong with the PLC or the genius block there or whatever it was to cause this thing to go haywire.”³⁸⁹ Based on its understanding of the question, PG&E should have included the name of the supervisor who was working directly with an employee responding to the power issues at Milpitas Terminal in its data response. PG&E’s failure to do so, and its explanation why this name was not included, leads us to conclude that PG&E’s October 10, 2011 response to DR 8, Q. 8.d was misleading. Accordingly, we agree with CPSD and find that PG&E violated Rule 1.1 in its response to this data request.

We further find PG&E violated Rule 1.1 in its December 17, 2011 response to DR 30, Q.2. Contrary to PG&E’s assertion, CPSD’s data request did not ask for an employee’s scheduled work hours on September 9, 2010, but to “[s]pecify the hours each person identified was present on September 9, 2010 and summarize the work that person performed during that time.”³⁹⁰ Given that this supervisor was present at the Milpitas Terminal and was involved with trying to address the power failure issues, PG&E should have provided a more complete response

³⁸⁸ PG&E Opening Brief at 100.

³⁸⁹ See TRANSCRIPT_SF_9.9.2010_2.05.43_PM_11.57.23_PM_20110113.pdf at 9.9.2010- 6.13.32-PM- 607939000393895- 0001; see, also TRANSCRIPT_SF_9.9.2010_2.05.43_PM_11.57.23_PM_20110113.pdf at 9.9.2010- 6.49.52- PM- 607939000393968- 0004 (“Right before the change of shift, we had [Transmission Mechanic] and [Supervisor] at Milpitas working and something that happened while they were working was all the data at Milpitas went out of range and we over pressured the mixer and we got up to 394 pounds on the outgoing line.”)

³⁹⁰ Exh. CPSD-18 (Disc 24) PG&E Response to CPSD Data Request 30, Q2, at 1 GasTransmissionSystemRecordsOII_DR_CPUC_030-Q02.pdf.

to this data request. By failing to do so, PG&E violated Rule 1.1 by misleading CPSD.

We agree with CPSD that these two violations should be considered continuing violations. CPSD has asked that the violations be found to be continuing until either the date of the decision in this proceeding or alternatively until January 15, 2012, the date CPSD learned that PG&E's responses to the data requests were misleading. We find that it would be more appropriate to set the termination date as January 15, 2012. Although it may well be that PG&E's failure to candidly respond to the data responses will negatively impact our ability to reach an informed decision, the disclosure of PG&E's misleading information will ensure that we will not make a decision based on incomplete facts.

7.5. Violation 15: WITHDRAWN

8. Alleged Violations Related to All Transmission Lines including Line 132

PG&E contends that Violations 16-27 in the *Felts Testimony* and *Felts Supplemental Testimony* substantially overlap Violation A.1 in the *Duller/North Testimony*.³⁹¹ It further asserts that one alleged violation, concerning PG&E's GIS assumed SMYS values, also overlaps with allegations raised in the Class Location OII and the San Bruno OII.³⁹² PG&E asserts that CPSD has created two violations – one based on the cause and the other based on the effect – from the same conduct. It argues that due process prohibits multiple penalties for the same conduct. Moreover, PG&E notes that the two sets of violations raise the same

³⁹¹ PG&E Reply Brief at 29.

³⁹² PG&E Reply Brief at 30.

allegations and negative effects. As such, PG&E argues that the violations overlap and should not be considered separately. Further, it maintains that it can only be penalized once for this course of conduct.³⁹³

We find that PG&E overstates the findings in *De Anza Santa Cruz Mobile Estates Homeowners Ass'n v. De Anza Santa Cruz Mobile Estates* (2001) 94 Cal. App. 4th 890 and *Troensegaard v. Silvercrest Industries, Inc.* (1985) 175 Cal. App. 3d 218. In both those cases, the courts held that a single plaintiff was precluded from recovering both punitive and statutory damages.³⁹⁴ Here, PG&E is subject to statutory fines for any violations found in this proceeding. Further, PG&E may be fined more than once for the same action, to the extent that action violates more than one statute, regulation or rule. Any fines or remedies imposed by the Commission as a result of the violations found in this proceeding are statutory, not punitive. Consequently, the due process arguments raised by PG&E are without merit.

The allegations raised by CPSD witness Felts in Violations 16-27 are similar to the allegations raised by CPSD witnesses Duller/North in that they pertain to PG&E's entire gas transmission pipeline system. However, the violations alleged by witness Felts looks at PG&E's various records on an individual basis, while witnesses Duller/North consider the impact of PG&E's overall recordkeeping practices on these records. To the extent these violations overlap, they reflect the severity of PG&E's actions. As we have previously

³⁹³ PG&E Reply Brief at 32-33.

³⁹⁴ *De Anza Santa Cruz Mobile Estates Homeowners Ass'n v. De Anza Santa Cruz Mobile Estates*, 94 Cal. App. 4th at 912; *Troensegaard v. Silvercrest Industries, Inc.*, 175 Cal. App. 3d at 228.

discussed, the number and severity of the violation is a factor to be considered at the time fines and remedies are imposed.

8.1. Violation 16: Job Files

From at least 1929, PG&E construction jobs were assigned a job file number by the accounting department.³⁹⁵ The purpose of Job Files is “[t]o record original and as-built design and construction data concerning gas transmission pipelines.”³⁹⁶ Job Files contain:

- Design drawings
- Job estimates
- Bills of materials
- Account documents
- Pressure test documents
- Weld inspection reports
- Information on pipe covering or coating, or cathodic protection system (if installed as part of a job)
- Original design class location
- Manufacturing mill test records (for large jobs)
- Construction standards and specifications (for contractors)
- Permitting and environmental records³⁹⁷

In this proceeding, PG&E refers to the Job File that contains original documents as the “master job file.”³⁹⁸ PG&E states that that the master Job File would

³⁹⁵ CPD Opening Brief at 88-89.

³⁹⁶ PG&E’s June 20, 2011 Response at 2A-19 (Table 2A-3).

³⁹⁷ PG&E’s June 20, 2011 Response at 2A-19 – 2A-20 (Table 2A-3).

³⁹⁸ Exh. CPD-18 (Disc 17) PG&E Response to CPD Data Request 17, Q5 at 1 GasTransmissionSystemRecordsOIL_DR_CPUC_017-Q05supp.pdf

be the file of record. Upon completion of a job, copies of the Job File are made and PG&E has “historically sent copies of the job file (and its folders) to the relevant mapping office, the gas transmission office in Walnut Creek and the Bayshore storage facility.”³⁹⁹ According to PG&E witness Harrison, as-built documentation would be in the Job Files sent to the Walnut Creek storage facility, while Job Files sent to the Bayshore facility would contain plant accounting cost reports.⁴⁰⁰

CPSD raises various violations related to the Job Files. First, it asserts that many master Job Files are missing.⁴⁰¹ In support of this assertion, CPSD notes that although PG&E stated that the Emeryville facility served as the central repository for master Job Files, many job folders were located outside of this facility. Further, the Emeryville facility’s Job File index contained numerous gaps in the sequence of job numbers. Finally, PG&E had acknowledged that it did not have a system-wide index of all its pipeline Job Files.⁴⁰² CPSD states that because a Job File would contain detailed records of individual construction projects, “loss of a job file represents the loss of virtually all of the information about a particular construction project, which includes the physical characteristics and the status of that segment of pipe as of the date of the

³⁹⁹ Exh. CPSD-36 at 10.

⁴⁰⁰ See, 3 Joint RT at 305:4 – 306:2 (PG&E/Harrison).

⁴⁰¹ CPSD Opening Brief at 89.

⁴⁰² CPSD Opening Brief at 168-169.

project.”⁴⁰³ Consequently, “PG&E is missing data required for a successful risk assessment of its pipelines.”⁴⁰⁴

CPSD additionally asserts that many Job Files were incomplete.⁴⁰⁵ Based on its review of “thousands of records in the ECTS database of Job Files,” CPSD concludes that many Job Files are missing “design and construction drawings, [and] x-ray and pressure test reports.”⁴⁰⁶ For example, CPSD notes that as part of the MAOP Records Validation Project, PG&E was able to find weld records in only 5.7% of the transmission Job Files held in Emeryville. CPSD believes this would lead to an inference that at least 94% of the Job Files in Emeryville were incomplete.⁴⁰⁷ Additionally, PG&E stated that in connection with the MAOP Validation Project, it found that “many of the underlying operating pressure records that had been reviewed from 1973-1975 for grandfathered pipelines were no longer available.”⁴⁰⁸ CPSD further notes that PG&E has admitted that records may have been discarded or misplaced as a result of moves.⁴⁰⁹

CPSD further notes that in addition to no central repository for Job Files, PG&E had copies of Job File documents in various field offices, leading to duplicate Job Files. However, individual personnel could add other documents

⁴⁰³ Exh. CPSD-4 at 23:11-13 (Felts).

⁴⁰⁴ CPSD Opening Brief at 90.

⁴⁰⁵ CPSD Opening Brief at 89 & 167-168.

⁴⁰⁶ Exh. CPSD-4 at 23:21-22. & fn. 120.

⁴⁰⁷ CPSD Opening Brief at 167.

⁴⁰⁸ Exh. PG&E-61 at 4-9:21-22.

⁴⁰⁹ CPSD Opening Brief at 89.

(e.g., construction inspection notes) to their own copies of Job Files that would be not part of the master job file.⁴¹⁰

Finally, CPSD contends that documents in Job Files are disorganized.

CPSD witness Felts states

There's no means for going into a job file – or now ECTS – and finding what you need within the file because there's no structure to the file. So even if you had a file that was complete, for instance, one of them has 80,000 pages in it, there would be no way to find what you're looking for without rum imagining [sic] through the entire 80,000 pages.⁴¹¹

CPSD concludes that these deficiencies in the Job Files make it “impossible for PG&E engineers with safety responsibility to efficiently and timely use Job Files to promote safety.”⁴¹² Consequently, CPSD asserts that PG&E has violated Pub. Util. Code § 451, ASME B.31.8 and PG&E's own internal policies requiring retention of engineering records.⁴¹³

PG&E does not dispute that records have been discarded or misplaced.⁴¹⁴ However, it argues that CPSD has failed to demonstrate that any Job Files were in fact missing, or that the organization of the Job Files constituted a violation of the law.⁴¹⁵ PG&E further notes that it has historically taken a decentralized approach to records management due to the company's large geographic

⁴¹⁰ Exh. CPSD-18 (Disc 17) PG&E Response to CPSD Data Request 17, Q5 at 1, GasTransmissionSystemRecordsOII_DR_CPUC_017-Q05.

⁴¹¹ 2 RT at 317:12-20 (CPSD/Felts).

⁴¹² CPSD Opening Brief at 87.

⁴¹³ CPSD Opening Brief at 88.

⁴¹⁴ PG&E's June 20, 2011 Response at 2A-9.

⁴¹⁵ PG&E Opening Brief at 102.

footprint. In order to share critical information, “some measure of duplication of records have historically been necessary to effectively and safely manage PG&E’s extensive natural gas system.”⁴¹⁶ Further, “given the technology available, the logistics involved in copying and moving copies of drawings and other documents around the state, a decentralized approach made sense.”⁴¹⁷ Finally, PG&E notes that nobody from PG&E had found that the Job Files were organized in an unsafe or inaccessible fashion.⁴¹⁸

PG&E disputes CPSD’s conclusion that there are missing Job Files. It states that gaps in the sequence of job numbers do not mean there are missing Job Files. It notes that PG&E issues job numbers for jobs in all lines of business within the utility. Consequently, “[g]aps between one gas transmission job number and another may reflect intervening gas distribution, electric, hydro and other projects – not missing gas transmission jobs.”⁴¹⁹ As such, PG&E contends that CPSD is unsupported because CPSD fails to provide any facts to support that Job Files were missing.⁴²⁰

We do not find PG&E’s argument persuasive. As previously discussed, PG&E is the keeper of all its records. As such, it is in the best position to identify the “gas distribution, electric, hydro and other projects” that had been assigned job numbers between gas transmission jobs. PG&E cannot claim that CPSD failed to present evidence to support its claim that the gaps in the sequence of job

⁴¹⁶ PG&E Opening Brief at 103.

⁴¹⁷ Exh. PG&E-62 at MD-22 (PG&E/Dunn).

⁴¹⁸ PG&E Opening Brief at 104.

⁴¹⁹ PG&E Opening Brief at 103; see also Exh. PG&E-61 at 3-37 (Harrison).

⁴²⁰ PG&E Reply Brief at 76-78.

numbers represented missing gas transmission Job Files if PG&E does not first identify the job numbers assigned to non-gas transmission jobs. Further, CPSD states

Despite PG&E assertions that the missing job numbers were used by PG&E divisions other than gas, the evidence proves that they were not. Nearly half (49%) of the job numbers reviewed in the 1 – 10,000 range in PG&E's new GIS were from these missing Job Files – files that had been identified on the primary source documents and plat sheets used to populate the GIS.⁴²¹

Based on the evidence presented by CPSD, and PG&E's inability to demonstrate that the missing job numbers were assigned to PG&E Divisions other than gas, we find that it would be reasonable to infer that the gaps in the sequence of Job Files include missing gas transmission Job Files.

We are also not persuaded that a decentralized approach to recordkeeping excuses PG&E from not maintaining complete and accurate Job Files. PG&E states that despite having multiple copies of Job Files in the field, "standard operating procedures" required copies of any redlines or other updates to be incorporated into the master job file in a timely manner.⁴²² However, PG&E witness Dunn then testifies that it was not feasible for PG&E to create "an updated Master Job File and a central catalog or index."⁴²³ Further, witness Dunn could not confirm that PG&E employees had actually complied with the standard operating procedures to update the master Job Files. We find that while PG&E's decentralized approach to recordkeeping may have made sense

⁴²¹ CPSD Reply Brief at 75 (citing Exh. CPSD-9 at 1-3).

⁴²² Exh. PG&E-62 at MD-23 (PG&E/Dunn).

⁴²³ Exh. PG&E-62 at MD-23 (PG&E/Dunn).

from an operational standpoint, the lack of a master job file index and multiple copies of Job Files, created a situation where PG&E did not necessarily know which job file was the “master.”⁴²⁴ Thus, regardless of PG&E’s approach to recordkeeping, it should have had a means to track the location of the master Job Files and to ensure that they were updated in accordance with standard operating procedures.

We agree with CPSD that missing or incomplete Job Files would adversely impact PG&E’s ability to operate its pipeline system in a safe manner. Since PG&E has represented that the hardcopy Job Files containing original documents are the file of record, it should ensure that these hardcopy files are accounted for, complete and accurate. As noted by CPSD, the Job Files it reviewed were missing important safety information, including “hydrotest records, pipe manufacturer records, [and] age of pipe (as opposed to date of installation.”⁴²⁵ PG&E has stated that all of these types of records are to be included in Job Files.⁴²⁶ Since PG&E states that the Job Files are one of its primary sources of data in its integrity management program,⁴²⁷ missing and incomplete Job Files would affect its risk assessment and pipe replacement program.

Finally, we find that the evidence supports the conclusion that the contents of the Job Files were disorganized to the point of creating an unsafe situation.

⁴²⁴ As a further source of concern, since employees at the various locations may add their own documents or notations to the Job Files, the copies are only substantially similar to the master Job Files, not duplicates. This would present further problems if different copies contain different or conflicting information.

⁴²⁵ CPSD Reply Brief at 76-77 (citations omitted).

⁴²⁶ See, PG&E’s June 20, 2011 Response at 2A-19 – 2A-20 (Table 2A-3).

⁴²⁷ See Section 8.9 below; see also, PG&E’s June 20, 2011 Response at 2A-26 (Table 2A-3).

Although PG&E witness Harrison testified that in his experience, the Job Files for large projects, such as Line 300, would be well organized, he also stated that Job Files for small jobs, such as GM 136471 which installed Segment 180, would not be as well organized.⁴²⁸ Additionally, CPSD notes that PG&E employees have spent “a total of 250,000 man days of work from January 2011 through to March 26, 2013 to gather, review, catalogue and index, copy, and analyze PG&E Job Files for all phases of MAOP validation.⁴²⁹ This would suggest that, despite the fact that no PG&E employee had expressly stated that the Job Files were difficult to use, the master Job Files were not updated on a regular basis, were not readily located, nor organized in a consistent manner.

In light of these considerations, we find that PG&E’s recordkeeping practices with respect to Job Files adversely impacts its ability to operate its gas transmission pipeline system in a safe manner. This constitutes a violation of Pub. Util. Code § 451. Moreover, PG&E’s internal procedures specify the records to be retained in Job Files. Thus, incomplete Job Files also constitute a violation of PG&E’s own internal policies.

CPSD states that Violation 16 is a continuing violation that began in 1987. CPSD explains that it selected 1987 as the starting date for Violation 16 because that was when PG&E purposely discontinued keeping the Pipeline History Files, which were based on the Job Files.⁴³⁰ Ms. Felts further notes that based on her review of the records, “it appeared that it’s the mid to late ‘80s when files started

⁴²⁸ 3 Joint RT at 282:4-6 & 310:24-26 (PG&E/Harrison).

⁴²⁹ CPSD Reply Brief at 79 (citation omitted).

⁴³⁰ 2 RT at 320:4-25 (CPSD/Felts).

to sort of become disorganized and disappear.”⁴³¹ CPSD further contends that this violation will continue until the missing job file is found or the piece of pipe related to the job file is replaced.⁴³²

PG&E contends that CPSD has not demonstrated that this should be considered a continuing violation. First, it notes that CPSD has no proof of the start date of the violation.⁴³³ Further, it notes that since CPSD cannot identify the records that are missing, PG&E has no “reasonable opportunity to cure” the alleged violation.⁴³⁴

As we have discussed in Section 5.2.2, CPSD’s witnesses have provided sufficient evidence to support the starting dates for their alleged violations. Here, CPSD witness Felts explained that the start date was based on when records in the Job Files became disorganized and the date that Pipeline History Files were discontinued. We agree that this start date is appropriate. As the keeper of the records, PG&E could have refuted this by demonstrating that it had the necessary records in its Job Files after 1987.

We further agree with CPSD that this should be considered a continuing violation. Although PG&E correctly states that CPSD cannot identify the records that are missing, it is able to cure the missing information through the testing of its pipelines and ensuring that there are records to ensure their ongoing safe operations. Indeed, the *PSEP Decision* adopted a Pipeline Safety Enhancement Plan for PG&E, which consisted of the following two programs:

⁴³¹ 2 RT at 320:10-12 (CPSD/Felts).

⁴³² 2 RT at 322:1 – 323:12 (CPSD/Felts).

⁴³³ PG&E Reply Brief at 81.

⁴³⁴ PG&E Reply Brief at 82.

The first program, PG&E's Pipeline Modernization Program, provides for testing, replacing, reducing operating pressure, conducting in-line inspections as well as retrofitting to allow for in-line inspection, and adding automatic or remotely-controlled shut-off valves. The second program, the Pipeline Records Integration Program will enable PG&E to finish its records review and establish complete pipeline features data for the gas transmission pipelines and pipeline system components, and the Gas Transmission Asset Management Project, a substantially enhanced and improved electronic records system.⁴³⁵

While the programs adopted in the *PSEP Decision* will not immediately cure this violation, we find that it sets in place the means by which PG&E shall do so. Additionally, PG&E's failure to comply with the mandates of the *PSEP Decision* shall subject it penalties under Pub. Util. Code § 2107. In light of these considerations, we find that the end date of this violation should be set as December 20, 2012, the effective date of the *PSEP Decision*.

8.2. Violation 17: Pipeline History Files

In addition to the Job Files, PG&E maintained information in Pipeline History Files between 1969 and 1987. The Pipeline History File was located in the various field offices and "was the same information [as the Job Files] but it was organized linearly along the line" by mile point.⁴³⁶ PG&E witness Harrison states that engineers would find these files a "more convenient way to look at the files" since all jobs for a particular line would be located together.⁴³⁷ The Pipeline History Files were the source of the data used to develop PG&E's Pipeline

⁴³⁵ *PSEP Decision* 2012 Cal.P.U.C. LEXIS 660 at *44.

⁴³⁶ 3 Joint RT at 286:23-25 & 288:2. (PG&E/Harrison.)

⁴³⁷ 3 Joint RT at 288:3-25. (PG&E/Harrison.)

Survey Sheets.⁴³⁸ The data from the Pipeline Survey Sheets were ultimately transferred into PG&E's GIS system.⁴³⁹

Standard Practice 463.7, effective December 1, 1969,⁴⁴⁰ required a Pipeline History File to contain the following information for the life of the facility:

- a. Pipeline or main number;
- b. Dates of original installation and subsequent changes requiring work orders;
- c. Design and construction data covering the original installation and subsequent revisions requiring work orders or GM estimates;
- d. MAOP of each section;
- e. Type of protective coating originally or subsequently installed and the existing condition of the coating;
- f. Cathodic protection installations showing locations, ratings, and installation dates;
- g. Record of pipeline or main inspections;
- h. Record of pipeline or main leakage surveys and repairs;
- i. Record of location class surveys;
- j. Record of pipeline or main sections where hoop stress corresponding to MAOP exceeds that permitted for new pipelines or mains in the particular class location;
- k. Initial or most recent strength test data;
- l. Special studies and surveys made as a result of unusual operating or maintenance conditions, such as earthquakes, slides, floods, failures, leakage, internal or external

⁴³⁸ Exh. PG&E-61 at 2-22.

⁴³⁹ Exh. PG&E-61 at 2-23.

⁴⁴⁰ PG&E Documents P2-1336.pdf and P2-1337.pdf.

- corrosion or substantial changes in cathodic protection requirements;
- m. Annual summary of existing condition of pipelines and mains based upon available records as per Exhibit A; and
- n. Specifications for materials and equipment, installation, testing, and fabrication shall be included or cross-referenced to this file.

This Standard Practice was discontinued in 1987.⁴⁴¹ Although PG&E cannot locate any records maintained pursuant to Standard Practice 463.7, it cannot state conclusively whether they were discarded or destroyed.⁴⁴² Further, “PG&E is unable to state what steps it took to ensure that all information kept and maintained pursuant to Standard Practice No. 463.7 would continue to be available after the standard practice was eliminated.”⁴⁴³

CPSD contends that Standard Practice 463.7 was implemented in response to requirements under GO 112-B.⁴⁴⁴ It notes that the stated purpose of the Pipeline History Files was “to provide a current and uniform history record for pipelines (and mains) that have a Maximum Allowable Operating Pressure (MAOP) resulting in hoop stress equal to or greater than 20% of the Specified Minimum Yield Strength (SMYS).”⁴⁴⁵ It further argues that even if the Pipeline

⁴⁴¹ Exh. CPSD-18 (Disc 25)PG&E Response to CPSD Data Request 34, Q1(f) and Attachment 5. (GasTransmissionSystemRecordsOII_DR_CPUC_034-Q01;GasTransmissionSystemRecordsOII_DR_CPUC_034-Q01Atch05.)

⁴⁴² Exh. CPSD-18 (Disc 25) PG&E Response to CPSD Data Request 34, Q1(h) at 3. (GasTransmissionSystemRecordsOII_DR_CPUC_034-Q01.)

⁴⁴³ Exh. CPSD-18 (Disc 25) PG&E Response to CPSD Data Request 34, Q1(g) at 3 (GasTransmissionSystemRecordsOII_DR_CPUC_034-Q01.)

⁴⁴⁴ CPSD Opening Brief at 93.

⁴⁴⁵ CPSD Opening Brief at 93 (citing P2-400.pdf at 91).

History Files were duplicative of Job Files, data in the Pipeline History Files were used to complete the Pipeline Survey Sheets. The Pipeline Survey Sheets, in turn, served as the source of data for GIS and PG&E's integrity management model.⁴⁴⁶

CPSD maintains that since PG&E did not retain a good and complete set of Job Files (see Violation 16 above), the Pipeline History Files may have contained the only copy of some records.⁴⁴⁷ CPSD further notes

PG&E's engineers must have known that Job Files were not updated with annual survey-type data that was stored in the Pipeline History Files. If PG&E did knowingly and purposely purged the Pipeline History Files from all offices, it did so knowing it was destroying unique records underlying the Pipeline Survey Sheets, the GSAVE data base and, ultimately, GIS data.⁴⁴⁸

CPSD contends that failure to retain the Pipeline History Files constitutes a violation of Pub. Util. Code § 451, ASME B.31.8, PG&E's internal policies requiring the retention of engineering records and GO 112-B through 112-E.⁴⁴⁹ CPSD contends that this violation began in 1987, based on testimony from PG&E witness Phillips⁴⁵⁰ and continued through 2010.

PG&E contends that there is no legal requirement to maintain Pipeline History Files. Rather, these files were required under Standard Practice 463.7. However, once this Standard Practice was rescinded, there was no longer any

⁴⁴⁶ CPSD Opening Brief at 101.

⁴⁴⁷ CPSD Opening Brief at 95.

⁴⁴⁸ CPSD Opening Brief at 96.

⁴⁴⁹ CPSD Opening Brief at 92-93.

⁴⁵⁰ CPSD Opening Brief at 100-101; see also, Exh. PG&E-61 at 2-21:27 ("When SP 463.7 was rescinded no later than October 1987...").

requirement to maintain the Pipeline History Files.⁴⁵¹ Additionally, PG&E argues that even though the Pipeline History Files were no longer available, the Pipeline Survey Sheets were retained after Standard Practice 463.7 was rescinded.⁴⁵² These sheets contained a plan view scale map showing the location of the pipeline, as well as tabular information of pipe data, test data, operating data, pipe casing diameter and footage and location data.⁴⁵³ Therefore, PG&E maintains that discarding the Pipeline History Files did not result in the loss of any data that PG&E was required to maintain.

PG&E further notes that one of the reasons the Pipeline History Files did not need to be maintained is because these files contained copies of documents maintained elsewhere.⁴⁵⁴ Consequently, PG&E asserts that even if the Pipeline History Files were disposed, the information contained in those files was available from other sources, including Job Files.⁴⁵⁵

We find that CPSD has not demonstrated that PG&E's failure to retain the Pipeline History Files constitutes a violation of Pub. Util. Code § 451, ASME B.31.8, PG&E's internal policies requiring the retention of engineering records and GO 112-B through 112-E. CPSD's own witnesses have acknowledged that the Pipeline History Files contain copies of records obtained from other sources. Thus, although Pipeline History Files contained copies of records that were not included in Job Files, the original records would have been retained elsewhere.

⁴⁵¹ PG&E Opening Brief at 106.

⁴⁵² Exh. PG&E-61 at 2-22 (PG&E/Phillips).

⁴⁵³ Exh. PG&E-61 at 2-22 (PG&E/Phillips).

⁴⁵⁴ 3 Joint RT at 286:12-25 (PG&E/Harrison).

⁴⁵⁵ 7 RT at 1115:19 - 1116:4 (PG&E/Phillips); see also Exh. PG&E-61 at 2-21.

We find no statutory or regulatory requirement for PG&E to retain duplicate copies of documents in a separate file. CPSD may be correct that the Pipeline History Files may have “contained important safety information that cannot now be located in Job Files.”⁴⁵⁶ However, that safety information should have been part of the Job Files. Thus even if the Pipeline History Files had this information, that would not have alleviated PG&E’s responsibility to maintain complete and accurate Job Files.

We are also not persuaded by CPSD’s arguments that PG&E violated Pub. Util. Code § 451 and the applicable industry codes by rescinding Standard Practice 463.7. PG&E has stated that Pipeline History Files provided a more convenient way to look at information regarding pipe segments. However, as PG&E notes, there was no requirement to maintain Pipeline History Files. While pipeline operators are required to maintain certain records, there are generally no specifications on how these records are to be organized (e.g. by job as in the Job Files or by pipe segment as in the Pipeline History Files). PG&E’s decision to eliminate duplicate records and to no longer maintain files organized by pipe segment may have been shortsighted, but does not rise to the level of a violation.

8.3. Violation 18: Design and Pressure Test Records

As discussed in Section 7.2.1 in connection with Segment 180, PG&E represented that it conducted strength tests since at least 1955, consistent with the ASME B.31.8 standards, GO 112 and/or the federal regulations. Although these standards and regulations require the retention of pressure test records, PG&E has admitted “it has not located some historic pipeline records, including

⁴⁵⁶ CPSD Reply Brief at 82.

strength test reports that should have been retained.”⁴⁵⁷ Although PG&E’s standards require that strength test records be maintained in Job Files, CPSD notes that PG&E has identified 23,760 pipe segments (approximately 435.7 miles) in Class 3 and 4 High Consequence Areas as lacking strength test records.⁴⁵⁸ CPSD maintains that the Commission should infer that PG&E’s inability to locate the files means that PG&E never conducted strength tests for these pipe segments, conducted strength tests but never created test records, or destroyed the strength test records.⁴⁵⁹

CPSD concludes that in the absence of pipe strength test results, “PG&E cannot ensure the safety of the pipe without digging it up and testing it again.”⁴⁶⁰ CPSD maintains that PG&E should be found to have committed thousands of violations, based on the information contained in Exhibit TURN-4.⁴⁶¹ Further, it maintains that the failure to keep pressure tests should be considered a continuing violation since “PG&E transports gas daily through its pipes – each day it does so without the lawfully required information causes a diminishment of gas safety.”⁴⁶²

CPSD contends that failure to maintain strength test records constitutes a violation of Pub. Util. Code § 451, ASME B.31.8, GO 112 through 112-B and

⁴⁵⁷ Exh. PG&E-61 at 1-1:20-21.

⁴⁵⁸ CPSD Opening Brief at 104 & 166; see also, Exh. TURN-4.

⁴⁵⁹ CPSD Opening Brief at 101 & 166.

⁴⁶⁰ CPSD Opening Brief at 108.

⁴⁶¹ CPSD Opening Brief at 109.

⁴⁶² CPSD Opening Brief at 108.

PG&E's internal records retention policies.⁴⁶³ CPSD contends that these are continuing violations which run from 1956 to 2010.⁴⁶⁴ CPSD states that it selected this date because "beginning in 1956, [PG&E] was required to hydrostatically test, to record the results accurately and fully, and to retain the test results for the entire operational life of the pipe installed."⁴⁶⁵

PG&E disputes CPSD's allegations, noting "the problem of missing or incomplete pipeline records, particularly for vintage pipelines, is an industry-wide phenomenon by no means confined to PG&E."⁴⁶⁶ It argues "logic dictates that any attempt to impose liability for violation of "good engineering standards" must consider the actual standards and practices widely employed across the industry."⁴⁶⁷ Additionally, PG&E notes that 49 CFR 192.517(a) requires operators to retain records for each strength test conducted, not to retain records of strength tests on a segment by segment basis.⁴⁶⁸ Further, it argues that since 49 CFR 192.505(a) (relating to the pressure tests) does not define the term "segment," PG&E's use of that term in Exhibit TURN-4 "could also be multiple segments from this spreadsheet."⁴⁶⁹ Thus, PG&E contends that the requirement is based on the section of pipe tested, not the segments.⁴⁷⁰ As such, it argues that

⁴⁶³ Exh. CPSD-3 at 12.

⁴⁶⁴ CPSD Opening Brief at 108.

⁴⁶⁵ CPSD Opening Brief at 106.

⁴⁶⁶ PG&E Opening Brief at 108.

⁴⁶⁷ PG&E Reply Brief at 87.

⁴⁶⁸ PG&E Reply Brief at 86.

⁴⁶⁹ 6 RT at 1004:26-27 (PG&E/Singh).

⁴⁷⁰ 6 RT at 1005:6-12 (PG&E/Singh).

CPSD and TURN cannot base the number of missing strength test records on the number of segments for which PG&E has not located a written pressure test record.⁴⁷¹ Moreover, PG&E maintains that CPSD has not proven that the pressure test records are in fact missing. As PG&E witness Harrison states, PG&E has not given up looking for those records and still hopes to find them.⁴⁷²

PG&E further asserts that CPSD failed to cite to any evidence to support the 1956 start date.⁴⁷³ It contends that there was no law or statute dating from 1956 that “required operators to maintain in perpetuity records for those pressure tests that they did conduct.”⁴⁷⁴ Finally, PG&E argues that since this violation could not be cured (i.e., the lost records could not be retrieved), it cannot be considered a continuing violation.⁴⁷⁵

PG&E’s arguments appear to attempt to minimize the significance and number of missing pressure test records. The fact that other operators may also have missing pressure test records, does not excuse PG&E’s recordkeeping shortcomings. PG&E has not, and cannot, cite to any authority that would lead us to conclude that failure to comply with a statute or regulation is not a violation on the grounds that its actions are the same as “a hundred different operators across the U.S.” Further, we do not find it credible that a “good engineering standard” would be to have missing pipeline records.

⁴⁷¹ PG&E Reply Brief at 85.

⁴⁷² 2 Joint RT at 256:15-19 (PG&E/Harrison).

⁴⁷³ PG&E Reply Brief at 87-88.

⁴⁷⁴ *Id.*

⁴⁷⁵ PG&E Opening Brief at 110.

Similarly, we do not find any of PG&E's other arguments to be persuasive. Although the Federal Regulations do not define the term "segment", PG&E has defined this term as part of its implementation of the regulations and tracks pipeline information based on its definition. PG&E cannot now argue that CPSD and TURN have incorrectly determined the number of missing pressure test records based on information provided by PG&E. Further, even if PG&E were correct that each pressure test record would contain several pipe segments, there would still be a significant number of pressure test records that have not yet been located. Despite PG&E's hope that it will locate these missing records in the future, such an outcome becomes increasingly unlikely with the passage of time.

Finally, PG&E is reminded that it is responsible for retaining the pressure test records, not CPSD or TURN. Contrary to PG&E's arguments, there was no requirement that a pressure test be maintained "in perpetuity." Rather, there was a requirement that they be retained for the life of the pipe. As CPSD notes, it is impossible to ascertain whether pressure test records are missing because no pressure test had been conducted, no record of the pressure test had been created or the record of the pressure test had been lost or destroyed. By failing to do so, we may draw an adverse inference that the missing records have been discarded.

For the reasons discussed above, we find that PG&E has failed to retain pressure test records as required by Pub. Util. Code § 451, ASME B.31.8, GO 112 through 112-B and PG&E's internal records retention policies. We agree with CPSD that this violation commenced in 1956. CPSD has provided a reasonable explanation for selecting this date. Further, we find this to be a continuing violation. PG&E operates its pipelines every day, and the failure to have records to ensure that they are operating at the proper pressure presents a safety risk. PG&E may cure this violation by retesting the pipelines with missing pressure

reports. Indeed, as part of its MAOP validation project, it is doing so. Consistent with our discussion regarding the end date for Violation 16 in Section 8.1 above, we find that the end date of this violation should be set as December 20, 2012, the effective date of the *PSEP Decision*.

8.4. Violation 19: Weld Maps and Weld Inspection Records

PG&E states that over the past 55 years, it has generally conducted two types of tests to identify weld defects before putting pipe into service:

1. inspection of girth welding using x-ray, visual, ultrasonic, and magnetic particle imaging as appropriate.
2. pressure tests.⁴⁷⁶

For pipe in service, the primary way PG&E would identify weld defects or failures was at the time it detected and repaired a pipe leak.⁴⁷⁷

Prior to 2008, A-Forms included construction defects and material failures as options for the cause of the leak. In March 2008, PG&E modified the A-Form to enable field employees to record weld failure as the cause of the leak."⁴⁷⁸

PG&E states that whenever pre-service weld tests were performed, the test records would be placed in the Job Files.⁴⁷⁹ Copies of the A-Forms would be maintained in either Job Files or in separate files located in the local office.⁴⁸⁰

⁴⁷⁶ PG&E June 20, 2011 Response at 7-3.

⁴⁷⁷ PG&E June 20, 2011 Response at 7-5.

⁴⁷⁸ PG&E June 20, 2011 Response at 7-5. A-Forms have previously been known as "Leak Test Reports" and "Pipe Shut Down" records.

⁴⁷⁹ PG&E June 20, 2011 Response at 7-3.

⁴⁸⁰ PG&E June 20, 2011 Response at 7-5.

CPSD states that weld inspection reports “document the integrity of the installed pipe” and are “an important source of information about the quality of welds.”⁴⁸¹ It notes that PG&E’s Standard Practice 1605 required weld inspections and that PG&E retain the weld inspection reports for the life of the facility.⁴⁸² However, based on discussions with PG&E in its Rocklin Office and review of PG&E’s Enterprise Compliance Tracking System (ECTS) database, CPSD determined that very few weld records could be found in the Job Files and that PG&E did not retain any weld records beyond 5 years.⁴⁸³

CPSD asserts that PG&E failed to retain weld maps and weld inspection records in violation of Pub. Util. Code § 451, ASME B.31.8, 49 CFR 192.241 and 192.243, GO 112, GO 112-A, GO 112-B and PG&E’s Standard Practice 1605.⁴⁸⁴ CPSD contends that this violation applies to all missing weld inspection reports starting from 1930 and will continue until the records are found or the pipe is replaced.⁴⁸⁵

PG&E asserts that there is no regulatory requirement to maintain weld maps and weld inspection records.⁴⁸⁶ Additionally, it notes that CPSD had even conceded that it was not industry practice to create weld maps, much less retain them for the life of the pipe.⁴⁸⁷ According to PG&E, weld maps have limited

⁴⁸¹ CPSD Opening Brief at 110 & 111.

⁴⁸² CPSD Opening Brief at 110-111; see also P2-1286 (SP 1605, *Standard Procedure for Inspection of Welds on Gas Piping Systems*, dated October 28, 1963).

⁴⁸³ Exh. CPSD-2 at 34-36.

⁴⁸⁴ CPSD Opening Brief at 110.

⁴⁸⁵ 2 RT 331:15-19 (CPSD/Felts).

⁴⁸⁶ PG&E Opening Brief at 110.

⁴⁸⁷ PG&E Opening Brief at 112.

value and, thus, are not records that need to be created and retained.⁴⁸⁸ Finally, PG&E argues that even if CPSD could prove there were missing weld maps and weld inspection records, CPSD failed to establish that this was a continuing violation.⁴⁸⁹

There is no dispute that PG&E, through its voluntary compliance with ASME B.31.8, or as directed pursuant to GO 112 or 49 CFR 192, has been conducted weld inspection prior to putting pipelines into service. ASME B.31.8 § 828.2 addresses the inspection and tests of welds intended to operate at 20% or more of SMYS, while §§ 829.1 – 829.9 specify the standards of acceptability of welds and repair of defects.⁴⁹⁰ The ASME B.31.8 weld inspection requirements were incorporated into GO 112, GO 112-A, and GO 112-B with minor modifications.⁴⁹¹ Additionally, § 206.1 of these General Orders specified the minimum inspections of various types of welds and stated “A record shall be made of the results of the tests and the method employed.”⁴⁹² 49 CFR 192.241(b) required non-destructive testing of pipelines operated at or above 20% of SMYS unless:

- (1) the pipeline has a nominal diameter of less than six inches;
or
- (2) the pipeline is to be operated at a pressure that produces a hoop stress of less than 40 percent of SMYS and the welds

⁴⁸⁸ PG&E Opening Brief at 110.

⁴⁸⁹ PG&E Reply Brief at 91.

⁴⁹⁰ Exh. PG&E-47.

⁴⁹¹ Exh. PG&E-4 (GO 112); Exh. CPSD-36A (GO 112-A); Exh. CPSD-60 (GO 112-B)

⁴⁹² Exh. PG&E-4 (GO 112) at 4; CPSD-36A (GO 112-A) at 4; Exh. CPSD-60 (GO 112-B) at 4.

are so limited in number that nondestructive testing is impractical.

49 CFR 192.243(f) requires that an operator “retain, for the life of the pipeline, a record showing by milepost, engineering station, or by geographic feature, the number of girth welds made, the number nondestructively tested, the number rejected, and the disposition of the rejects.”

We do not find PG&E’s arguments that it was not required to retain weld inspection reports to be supported by the record. As noted above, since 1955, PG&E has either voluntarily or been required to conduct weld inspections. PG&E represented that its construction practices in 1955 included “x-ray inspections of all tie-in welds, welds to fittings, and welds near river crossings, as well as between five and ten percent of all other girth welds.”⁴⁹³ PG&E’s *June 20, 2011 Response* states that weld inspection reports were part of the Job Files.⁴⁹⁴ Based on PG&E’s construction practices in 1955 and the contents in a job file, it would be reasonable for CPSD to conclude that every job file would contain at least one weld inspection report reflecting tests conducted at the time the pipeline was installed. Since the job file is the master file for PG&E’s operations, maintenance and integrity management programs, it would be expected that all documents in that file would be retained for the life of the pipeline. However, as CPSD notes, only 6% of PG&E’s Job Files contain weld inspection reports.⁴⁹⁵

Further, even absent the legal requirement to retain weld inspection records, PG&E’s own internal practices mandated that they be retained. PG&E

⁴⁹³ PG&E’s *June 20, 2011 Response* at 6A-4.

⁴⁹⁴ PG&E’s *June 20, 2011 Response* at 2A-19 (Table 2A-3).

⁴⁹⁵ CPSD Reply Brief at 89.

adopted Standard Practice 1605 in 1963 to establish a minimum weld inspection procedure for all gas pipelines in accordance with GO 112. The standard practice required that inspection reports be retained for the life of the pipeline facility. Additionally, PG&E document D-40, Weld Inspection, required records of visual and magnetic particle inspections be maintained in the job file, and that these records “be retained for the life of the facility in the job file.”⁴⁹⁶

Since PG&E is responsible for retaining and maintaining these reports, we infer that PG&E has lost or destroyed weld inspection reports. This is a violation of ASME B.31.8 § 828.2, GO 112 § 206.1, GO 112-A § 206.1, GO 112-B § 206.1, 49 CFR 192.241 and 192.243, and PG&E’s Standard Practice 1605.

We do not find, however, that CPSD has demonstrated a violation regarding the weld maps. CPSD has shown that, in retrospect, weld maps would have facilitated the location of a weld. However, failure to retain the weld maps does not render PG&E’s operations unsafe – just more difficult. Further, PG&E’s practices do not require the retention of weld maps in Job Files. As such, we agree with PG&E that there was no requirement to retain weld maps.

Finally, we do not agree with CPSD that this violation commenced in 1930. Although it states “there were no regulatory requirements to inspect girth welds” prior to GO 112, CPSD contends that “doing so would have been a necessary practice to ensure the integrity of installed pipe and safe operations.”⁴⁹⁷ However, there is no evidence in the record that this was in fact an industry practice or a practice followed by PG&E in the 1930’s. Consequently, we find that it is more appropriate to set the date this violation commenced as 1955,

⁴⁹⁶ D-40, Weld Inspection (P2-15), dated March 23, 2009, at 3.

⁴⁹⁷ CPSD Opening Brief at 110.

which is when PG&E represented to this Commission that weld inspections were part of its construction practices.⁴⁹⁸ This starting date is further supported, since the 1955 ASME B.31.8 included a procedure for weld inspections, and PG&E has represented that it followed ASME standards.⁴⁹⁹

We also agree with CPSD that this is a continuing violation. PG&E had notice that it was required to conduct weld inspections and retain these inspection reports. While it may not have been possible to locate the missing weld records, PG&E could have cured this violation through inspection of all welds. Consistent with our discussion regarding the end date for Violation 16 in Section 8.1 above, we find that the end date of this violation should be set as December 20, 2012, the effective date of the *PSEP Decision*.

8.5. Violation 20: Operating Pressure Records

Operating pressure records track the operating pressure history over the life of a pipe. CPSD states that these records would contain pressure readings at certain points in time and provide a history of the maximum and minimum pressures over time.⁵⁰⁰ CPSD states that information regarding the highest operating pressure and the duration at that level could affect the condition of the pipe and welds and is relevant in determining the remaining life of the pipe.⁵⁰¹ Thus, it maintains that pipeline operating pressure records are important for risk

⁴⁹⁸ PG&E's June 20, 2011 Response at 6A-4.

⁴⁹⁹ Exh. CPSD-18 (Disc 17) PG&E Response to CPSD Data Request 15, Q6 at 1-2, (GasTransmissionSystemRecordsOII_DR_CPUC_015-Q6.pdf).

⁵⁰⁰ 2 RT at 338:26 – 339:10 (CPSD/Felts).

⁵⁰¹ Exh. CPSD-2 at 37:13-18.

assessment and determining the expected life of the pipe.⁵⁰² Further, CPSD notes that large differentials over time in operating pressure of a pipe would lead to failure of PG&E's pipes as a consequence of cyclic fatigue. It contends that pursuant to 49 CFR 192.617(e)(2) gas operators must evaluate this information for integrity management purposes.⁵⁰³

CPSD next argues that PG&E does not maintain its operating pressure records in an accessible manner. For example, it states that in order to obtain operating pressure records for a certain period of time, an engineer would need to search through all the Job Files.⁵⁰⁴ CPSD therefore concludes that the records are essentially unavailable.⁵⁰⁵

CPSD further contends that PG&E "has no 'life of the plant' record of operating pressures for the life of its pipelines" and has acknowledged that it no longer has historic pressure records from 1999 for all pipelines in its system.⁵⁰⁶ CPSD asserts that without operating pressure records, "there is no means to safely manage pipes other than to test them, inspect them using inline technology or to replace them."⁵⁰⁷ It contends that PG&E has, as a matter of routine, failed to retain operating pressure records for the life of the facility starting from 1930 and continuing through 2010. CPSD contends that the loss of

⁵⁰² CPSD Opening Brief at 115-116.

⁵⁰³ CPSD Opening Brief at 116.

⁵⁰⁴ 2 RT at 339:13-26 (CPSD/Felts).

⁵⁰⁵ CPSD Opening Brief at 114.

⁵⁰⁶ CPSD Opening Brief at 116; see also Exh. CPSD-18(Disc 17) PG&E Response to CPSD Data Request 15, Q10 at 1-2 (GasTransmissionSystemRecordsOIL_DR_CPUC_015-Q10).

⁵⁰⁷ CPSD Opening Brief at 118.

operating pressure records means that PG&E does not have an accurate accounting of instances where operating pressure exceeded MAOP. CPSD states that this would mean PG&E could not accurately assess the condition of any of its pipes.⁵⁰⁸

CPSD asserts that failure to retain operating pressure records constitutes a violation of Pub. Util. Code § 451, ASME B.31.8, GO 112, 112A and 112B, and PG&E's own internal policies.⁵⁰⁹ CPSD further argues that this violation will continue until the records are found, completed or made accessible, or until the pipelines replaced.⁵¹⁰

PG&E asserts that there was no general requirement for pipeline operators to maintain operating pressure records for the life of the pipeline prior to the effective date of the Integrity Management rules in 2004.⁵¹¹ It further states that "to the extent specific records retention guidance has existed, it has generally treated pressure recording instrument charts as subject to finite retention periods."⁵¹² PG&E notes that 49 CFR 192.917(e)(3)-(4) "requires operators to prioritize for assessment pipe segments with certain specified characteristics whose operating pressure increases above the maximum operating pressure experienced in the five years preceding the date the segment was identified as an HCA segment."⁵¹³ PG&E states that this would require that relevant operating

⁵⁰⁸ CPSD Opening Brief at 116.

⁵⁰⁹ CPSD Opening Brief at 115.

⁵¹⁰ 2 RT at 344:4-11 (CPSD/Felts).

⁵¹¹ PG&E Opening Brief at 113 (citing Exh. PG&E-61 at 3-11).

⁵¹² PG&E Opening Brief at 113.

⁵¹³ PG&E Opening Brief at 113.

pressure history needed to be retained back to December 17, 1999.⁵¹⁴ PG&E maintains that, with the exception of 1999, pressure history information is available through its SCADA system from 1998 to present day.⁵¹⁵

Finally, PG&E acknowledges that it “inadvertently and irretrievably lost operating pressure data for 1999.”⁵¹⁶ However, it argues that this lack of documentation would not adversely the establishment of its maximum operating pressure.⁵¹⁷ “The loss of data for the applicable period in 1999 does not negatively affect any integrity management consideration, as recovery of this lost data would only have the ability to increase the highest observed pressure the five year period (which would raise the level to which these pipe segments could operate without requiring a hydro test).”⁵¹⁸

PG&E’s arguments address only one use of operating pressure records – to establish maximum operating pressure for integrity management purposes. However, 49 CFR 192.917(e)(2) requires an operator to evaluate whether cyclic fatigue or other loading conditions could lead to a failure of a deformation or defect in the pipe. Cyclic fatigue refers to the repeated application and removal of nominal load from a metal part. The magnitude of the cyclic stress will impact how quickly the metal will break. As CPSD has argued, operating pressure records are important to evaluating cyclic fatigue and determining the expected

⁵¹⁴ PG&E Reply Brief at 114.

⁵¹⁵ Exh. PG&E-61 at 3-59 (PG&E/Harrison).

⁵¹⁶ PG&E Reply Brief at 93.

⁵¹⁷ PG&E Opening Brief at 114; PG&E Reply Brief at 94.

⁵¹⁸ Exh. PG&E-61 at 3-59:4-9 (PG&E/Harrison).

life of the pipe. This has been true even before the implementation of the 2004 Integrity Management rules.

Moreover, PG&E's arguments regarding CPSD's ability to present evidence that PG&E had lost various records has been considered and rejected. Further, PG&E's reliance on an absence of specific rules regarding the requirement to retain operating pressure records prior to 2004 is misplaced. ASME B.31.8 § 850.2 states that while national rules regarding the safe operation and maintenance of gas transmission and distribution systems would be prescriptive,

[i]t is possible [] for each operating company to develop operating and maintenance procedures based on experience, knowledge of its facilities and conditions under which they are operated, which will be entirely adequate from the standpoint of public safety.

Consequently a basic requirement for gas operators is to keep necessary records to administer its operations and maintenance procedures and to modify its plans "from time to time as experience with it dictates and as exposure of the public to the facilities and changes in operating conditions require."⁵¹⁹ PG&E has represented that it voluntarily complied ASME B.31.8. Therefore, since at least 1955, PG&E would have created and retained operating pressure records to allow it to ensure that its gas transmission pipelines were operated and maintained safely. By failing to do so, PG&E did not maintain records necessary

⁵¹⁹ Exh. PG&E-47, ASME B.31.8 § 850.3(c) and (d).

to ensure the safe operations of its gas transmission system.⁵²⁰ We find that this constitutes a violation of Pub. Util. Code § 451.

Although CPSD asserts that this violation began in 1930, it does not provide sufficient support for that date. Based on our discussion above, we find that the start date of this violation should be 1955, the publication date of ASME B.31.8. Further, we agree with CPSD that this should be considered a continuing violation. We find that this violation ended on December 17, 2004, at the time the Integrity Management rules became effective.

8.6. Violations 21 and 22: Leak Records

PG&E states that it has engaged in leak surveying, inspection and repair throughout the period covered by the OII.⁵²¹ Starting in 1958, PG&E Standard Practice 460.21-4, *Gas Leakage, Routine Inspection For*, established the procedures for routine inspection of mains and the detection and reporting of leaks, including the schedule for the frequency and extent of surveys.⁵²² For gas mains operating at more than 60 psi, records of leaks discovered, repairs and routine leak survey tests were to be retained for “for as long as that section of main involved remains in service plus six years.”⁵²³ Additionally, PG&E used Form 62-4637, *Leak and/or Shutdown Report*, throughout the company “for reporting

⁵²⁰ We do not address here whether PG&E also violated its own internal procedures, as there is insufficient evidence in the record to determine whether PG&E had updated its operations and maintenance procedures as contemplated by ASME B.31.8 § 850.3.

⁵²¹ PG&E’s June 20, 2011 Response at 6B-22.

⁵²² See P2-1149.pdf.

⁵²³ P2-1149.pdf at 5 (Retention of Test Records).

specific data on pipeline leakage.”⁵²⁴ This form is also referred to as an A-Form, Leak Repair, Inspection and Gas Quarterly Incident Report.⁵²⁵

A-Forms were historically used “as a source of data from which to complete annual reports, such as those required in PHMSA 7100.2-1.”⁵²⁶ Over time, the A-Form “has involved to call for field employees to gather increasing amounts of data, including pipe specifications, soil type, cathodic protection and external pipe condition.”⁵²⁷ Completed A-Forms would be included in Job Files.⁵²⁸

In the 1970s, PG&E began retaining information from the A-Forms in an electronic recordkeeping leak system on a mainframe computer (Mainframe Leaks system).⁵²⁹ Leak information was entered by field personnel and transmitted to the mainframe system on a monthly basis. In the late 1980’s, PG&E developed a PC program called PC Leaks, which decentralized the data collection efforts to the local divisions and office. This allowed employees to enter and track leak information on a local level, and information from the local systems would be uploaded to a mainframe database system monthly.⁵³⁰ PC Leaks, however, did not allow PG&E employees to view leak information across PG&E’s entire system.

⁵²⁴ P3-10005.pdf at 118. A copy of the 1961 form may be found at P3-10005.pdf at 119.

⁵²⁵ Exh. PG&E-61 at 3-60.

⁵²⁶ PG&E Opening Brief at 116.

⁵²⁷ PG&E Opening Brief at 116-117.

⁵²⁸ CPSD Opening Brief at 119.

⁵²⁹ Exh. PG&E-61 at 3-61.

⁵³⁰ Exh. PG&E-61 at 3-61.

In 1999, PG&E developed a leak and repair tracking database called the Integrated Gas Information System (IGIS). Only data in PC Leaks for “open leaks” (i.e., leaks not yet repaired) was transferred over to IGIS. IGIS allowed PG&E to “record, update, retrieve, and report information regarding gas leak locations, readings, repairs, incidents, inspections, and dig-in data for all gas transmission and distribution facilities.”⁵³¹ Additionally, PG&E used IGIS as a source for leak information in its integrity management program.⁵³²

Although PG&E did not migrate information regarding closed or repaired leaks from PC Leaks into IGIS, it states that leak and leak repair data collected from 1970 – 1999 could be accessed on its Mainframe Leaks system through a searchable Microsoft Access database program.⁵³³ Additionally, PG&E maintains some leak information in GIS. The GIS data was obtained from pipeline survey sheets, IGIS data, and A-Forms.⁵³⁴

In Violation 21, CPSD contends that prior to 1970, PG&E’s leak records were inadequate. It maintains that the forms were frequently only partially completed and were not saved in a way that would make the data retrievable.⁵³⁵ CPSD states that since leak records are vital to the safe operations of a gas

⁵³¹ Exh. PG&E-61 at 3-61:31-33.

⁵³² Exh. PG&E-61 at 3-62.

⁵³³ Exh. CPSD-18 (Disc 29) PG&E Response to CPSD Data Request 69, Q6 at 2. (GasTransmissionSystemRecordsOII_DR_CPUC_069-Q06.pdf).

⁵³⁴ Exh. PG&E-61 at 3-62.

⁵³⁵ CPSD Opening Brief at 119.

transmission pipeline, an incomplete or missing leak record would mean that many of PG&E leaks would go unattended.⁵³⁶

In Violation 22, CPSD alleges that after 1970, PG&E failed to keep a complete set of leak records due to various reasons, including:

- Failure to migrate leak records from its Mainframe Leaks system into IGIS.
- Failure to retrieve leak data from locally archived PC Leaks into IGIS.
- Failure to properly map jobs and perform timely leak surveys.
- Inaccurate leak records
- Problems checking and ensuring the accuracy of leak information in IGIS.⁵³⁷

CPSD maintains that as a result of the incomplete and inaccurate information in IGIS, many of PG&E's leaks go unattended.⁵³⁸ Although it alleges similar violations as for pre-1970 leak records (Violation 21), CPSD distinguishes these violations due to additional regulatory requirements for leak reports created after 1970. Consequently, Violation 22 alleges violations of ASME B.31.8 (2004 version), and PG&E's internal policies requiring retention of leak records and leak survey maps.⁵³⁹ CPSD maintains that these are continuing violations that run from 1970 to 2010. CPSD explains that it divided the leak records violations into two groups based on when GO 112-C adopted the federal

⁵³⁶ CPSD Opening Brief at 121.

⁵³⁷ CPSD Opening Brief at 122-123.

⁵³⁸ CPSD Opening Brief at 124.

⁵³⁹ CPSD Opening Brief at 122.

regulations, as “PG&E had a more standardized format for tracking leaks” after 1970.⁵⁴⁰

CPSD contends that the failure to properly maintain leak records is a violation of Pub. Util. Code § 451, ASME B.31.8, and GO 112, 112-A and 112-B.⁵⁴¹ “The risks of allowing leaks to go unattended include exposing people to harmful gas, the potential for explosions where gas accumulates in closed areas, and total pipe failures resulting in catastrophic damage like the San Bruno pipe failure in September 2010.”⁵⁴²

CPSD maintains that Violation 21 started in 1930, while the start date for Violation 22 is 1970. CPSD states that the start date for Violation 21 represents the oldest pipe that CPSD found that did not have pressure records.⁵⁴³ CPSD further contends that both Violations 21 and 22 are continuing violations.

PG&E argues that both Violation 21 and 22 are unfounded. It notes that, with respect to Violation 21, CPSD’s allegation that leak records were missing is based on the fact that its witness could not locate certain A-Forms in the company’s Job Files.⁵⁴⁴ However, PG&E states that its prepared testimony had specified that A-forms could also be retained in separate “leak library” files located at the company’s local offices.⁵⁴⁵ It further notes that as part of its *Third Amendment to the June 20, 2011 Response*, it had produced weld-related leak

⁵⁴⁰ 2 RT at 346:18 – 347:27 (CPSD/Felts).

⁵⁴¹ CPSD Opening Brief at 118.

⁵⁴² Exh. CPSD-2 at 41:12-14. (CPSD/Felts).

⁵⁴³ 2 RT at 346:3-9 (CPSD/Felts).

⁵⁴⁴ PG&E Opening Brief at 115.

⁵⁴⁵ PG&E Reply Brief at 95.

offices stored in local offices.⁵⁴⁶ Additionally, it maintains that CPSD had failed to provide specific examples of “incomplete” records of pre-1970 leaks and was unsure of its basis why leak records were “inaccessible.”⁵⁴⁷

PG&E further finds fault with CPSD’s conclusion that its leak records were deficient or incomplete because certain information was missing. PG&E notes that over time, A-Forms have been revised to include more detailed leak information in response to changes in the industry and changes in regulatory reporting requirements.

Over time, these reporting requirements have required increased granularity. Accordingly, the A-Form has evolved to call for field employees to gather increasing amounts of data, including pipe specifications, soil type, cathodic protection and external pipe condition. Far from signaling some kind of violation, this evolution demonstrates and appropriate adaptation to a changing industry.⁵⁴⁸

With respect to Violation 22, PG&E notes that ASME B.31.8 (2004) and the federal integrity management regulations were not in effect at the time it had made its decisions regarding the migration of data and functionality regarding its electronic leak data records systems.⁵⁴⁹ As such, PG&E argues “there was no compliance-related reason to integrate large volumes of historic leak data into a new database.”⁵⁵⁰

⁵⁴⁶ PG&E Reply Brief at 95.

⁵⁴⁷ PG&E Opening Brief at 115-116.

⁵⁴⁸ PG&E Opening Brief at 116-117.

⁵⁴⁹ PG&E Opening Brief at 118.

⁵⁵⁰ PG&E Opening Brief at 118.

We agree with CPSD that retention of leak records is important to the safe operation of a gas pipeline system. These records would not only serve to identify leaks in PG&E's transmission pipeline system, but also specify when the leak is repaired and provide other information regarding the condition of the pipe. PG&E identifies these records as being used to perform maintenance work, to conduct leak repairs, to calculate risk for integrity management using historical data.⁵⁵¹ Further, PG&E uses both the hardcopy and electronic leak records as source documents.⁵⁵²

Although PG&E has had a long-standing program to discover and repair gas leaks, the information to be recorded in the A-Forms appears to be largely dictated by the reporting requirements. PG&E notes that increases in PHMSA's reporting requirements have required pipeline operators to change how it identifies and quantifies leaks.⁵⁵³

We agree with PG&E that it cannot be faulted that its A-Forms do not contain the same level of specificity in 1930 as in 2014. Nonetheless, information on the A-Forms should be complete and accurate, whether they are completed 80 years ago or yesterday. Both CPSD and PG&E have stated that the A-Forms have not always contained complete and accurate data.⁵⁵⁴ However, PG&E contends that one cannot make broad generalizations about the quality of its leak data based on CPSD's limited analysis of PG&E's leak records.

⁵⁵¹ PG&E's June 20, 2011 Response at 2A-24 (Table 2A-3).

⁵⁵² PG&E's June 20, 2011 Response at 2A-24 (Table 2A-3).

⁵⁵³ Exh. PG&E-61 at 3-63 (PG&E/Cowsert-Chapman).

⁵⁵⁴ Exh. PG&E-61 at 3-63 (PG&E/Cowsert-Chapman); Exh. CPSD-2 at 41 (CPSD/Felts); *see also*, P3-24246.pdf (examples of A-Forms).

While CPSD only conducted a limited review of PG&E's leak records, we do not believe that CPSD's findings were an anomaly. We are also not convinced that, as PG&E appears to suggest, the incomplete or inaccurate data are associated with historic records that would have contained insufficient information to rise to the level of a violation.⁵⁵⁵ PG&E states it has conducted leak surveys, inspections and repair throughout the period covered by the OIL. We believe that it would be reasonable to conclude that during that time period, leak records were prepared (either as an A-Form or its predecessor) and that some portion of these records contained inaccurate and incomplete data.

Although we find a violation for failing to retain leak records and for having leak records with inaccurate and/or missing data, we do not conclude that the starting date of this violation was 1930. As PG&E explained, its earliest leak inspection and repair reports contained limited information. It is unclear that the limited data on those forms impacted PG&E's ability to maintain its pipeline system in a safe manner. Rather, we find that the appropriate start date is 1955. As of that date, PG&E represented that it was voluntarily complying with the ASME B.31.8 standards which required more detailed information. As discussed in Section 4.2 above, ASME B.31.8 set industry standards for the safe operation of gas pipeline systems.

Therefore, we find that starting in 1955, inaccurate and/or incomplete data in PG&E's hardcopy and electronic leak reports, as well as missing leak reports, prevented PG&E from operating its pipeline system safely as required by Pub. Util. Code § 451. Consistent with our discussion regarding the end date for

⁵⁵⁵ Exh. PG&E-61 at 3-63 (PG&E/Cowsert-Chapman).

Violation 16 in Section 8.1 above, we find that the end date of this violation should be set as December 20, 2012, the effective date of the *PSEP Decision*.

8.7. Violation 23: Records to Track Salvaged and Reused Pipe

As discussed in Section 7.1.1 above, CPSD states that PG&E commonly reused pipe in its transmission system prior to 1970. However, PG&E did not keep track of where the used pipe was reinstalled.⁵⁵⁶ CPSD states that the life of the facility includes the entire life of the pipe, failure to track reused pipe “makes it impossible to accurately determine the correct age of any pipe in any segment, and makes it impossible for PG&E to identify, test, inspect or remove its most risky pipes and pipelines.”⁵⁵⁷ Further, CPSD notes that PG&E was unable to locate any standards for the reconditioning of used pipe until 1988.

CPSD further notes that although PG&E’s Pipeline Features List (PFL) includes a column for reconditioned/salvaged pipe, this column was added after “over 2.2 million job file documents [had been] scanned into the ECTS database, viewed and catalogued.”⁵⁵⁸ Consequently, to add this information to the PFL would require review of each scanned document to catalog those containing information regarding reconditioned or reused pipe.

Finally, CPSD notes that GIS equates the date of pipe installation to be the date of manufacture. CPSD states

⁵⁵⁶ CPSD Opening Brief at 125. CPSD also distinguishes between the proper reuse of pipe and the failure to track where reused pipe is installed. It notes “the latter makes it impossible for a utility to meaningfully consider the history of a pipe’s use, maintenance, testing and inspection.” (CPSD Opening Brief at 156.)

⁵⁵⁷ CPSD Opening Brief at 125.

⁵⁵⁸ CPSD Opening Brief at 126.

[i]f a pipe was manufactured in 1929, was in service for 35 years, and was then dug up and reinstalled in 1965, GIS identifies the date of pipe manufacture as 1965. There should be no doubt that integrity management engineers assign a higher different degree of risk of failure to a pipe manufactured in 1929 than a pipe manufactured in 1965.⁵⁵⁹

CPSD asserts that PG&E's failure to retain records regarding reused and reconditioned pipe is a continuing violation of Pub. Util. Code § 451 that runs from 1954 to 2010. CPSD states that although it could have selected an earlier start date, it selected 1954 based on the Line 132 records.⁵⁶⁰ Additionally, CPSD asserts that PG&E has also violated its internal policies requiring retention of engineering records between April 1994 and September 2010.⁵⁶¹

As a general matter, PG&E notes that use of reconditioned pipe is permitted pursuant to ASME B.31.8 § 817, which states "Removal of a portion of an operating line, and reuse of the pipe in the same line, or at a line operating at the same, or lower pressure, is permitted, subject only to the restrictions of paragraphs A, F and I in 811.27."⁵⁶² PG&E disagrees with CPSD's allegation that the reconditioned pipe installed in its system was unsatisfactory. It notes that that CPSD bases its allegation on accounting, transfer and shipping documents, which are not "the sort of documents that would be used to maintain detailed material specification."⁵⁶³ It further states that CPSD's witness "conceded that

⁵⁵⁹ CPSD Opening Brief at 127.

⁵⁶⁰ 2 RT at 350:12-14 (CPSD/Felts).

⁵⁶¹ CPSD Opening Brief at 124.

⁵⁶² Exh. PG&E-61 at 3-32, fn. 19. (PG&E/Harrison).

⁵⁶³ Exh. PG&E-61 at 3-33:9-10 (PG&E/Harrison).

she has no affirmative evidence that PG&E reconditioned pipe without inspection.”⁵⁶⁴ Consequently, PG&E argues that there is no support in the record that the reconditioned pipe is unsatisfactory.

We do not find this argument compelling. It is unclear what steps PG&E took to ensure that reconditioned pipe was inspected and found to be in satisfactory condition prior to installation. “PG&E has not yet located internal specifications for reconditioning pipe for the time frame from 1948 to 1956.”⁵⁶⁵ Further, PG&E’s description of the process for reconditioning A.O. Smith pipe in the 1950’s was based on a memorandum written in 1988.

PG&E witness states that although there is a process for reconditioning pipe, there is no report generated to confirm that the reconditioning work had been performed. Rather, there would just be “charges and related lists of expenses related to these – this work.”⁵⁶⁶ Based on this information, we can reasonably infer that if reconditioned or reused pipe had been inspected, there would be charges or expenses associated the inspection. PG&E cannot fault CPSD for not finding documents that were never retained while also discounting the only documentation (accounting, transfer shipping documents) available related to the reuse or reconditioning of existing pipe.

PG&E also disputes CPSD’s assertion that PG&E had lost records about reused pipes. It notes that notes that Job Files would sometimes include records such as job estimates, shipping notices and journal entries or vouchers that

⁵⁶⁴ PG&E Opening Brief at 119.

⁵⁶⁵ Exh. PG&E-47 PG&E Response to CPSD’s Data Request 3, Q10 at 1.

⁵⁶⁶ 4 Joint RT at 467:8-9 (PG&E/Harrison).

demonstrated the use of reconditioned or reused pipe.⁵⁶⁷ While there may not be records for older pipes, “industry standards from the past did not require it to [capture this type of data] or even suggest the practice.”⁵⁶⁸ Further, PG&E argues that until it has completed the MAOP validation process, there is no evidence that any records are missing or lost.⁵⁶⁹

In addition to not retaining records to confirm that it had properly reconditioned used pipe prior to reinstallation, we find that PG&E has failed to keep track of where the reused or reconditioned pipe has been installed in its transmission pipeline system. PG&E’s response to CPSD Data Request 24, Q1 and Q2 acknowledges that it did not have a centralized database that tracked reused or reconditioned pipe. Instead, “information on the reconditioned pipe that exists in PG&E’s gas transmission system historically has been gleaned from documents contained in Job Files.”⁵⁷⁰ PG&E further notes that a catalog of reconditioned pipe for the entire transmission system will be available at the conclusion of its MAOP validation efforts.⁵⁷¹ As part of its response to CPSD’s Data Request 24, Q2, PG&E provide reconditioned pipe information it had collected and verified.⁵⁷² While PG&E had (as of January 12, 2012) been able to

⁵⁶⁷ Exh. PG&E-61 at 3-33:25-31 (Harrison).

⁵⁶⁸ Exh. PG&E-61 at 3:28:19-22 (Harrison).

⁵⁶⁹ PG&E Opening Brief at 120.

⁵⁷⁰ Exh. CPSD-18 (Disc 23) PG&E Response to CPSD Data Request 24, Q1 at 1.(GasTransmissionSystemRecordsOII_DR_CPUC_024-Q01); see also Exh. CPSD-18 (Disc 23) PG&E Response to CPSD Data Request 24, Q2 at 2. (GasTransmissionSystemRecordsOII_DR_CPUC_024-Q02).

⁵⁷¹ Exh. CPSD-18 (Disc 23) PG&E Response to CPSD Data Request 24, Q2 at 2. (GasTransmissionSystemRecordsOII_DR_CPUC_024-Q02).

⁵⁷² Exh. CPSD-18 (Disc 23) PG&E Response to CPSD Data Request 24, Q2, Attachment

Footnote continued on next page

locate documents to identify pipe reconditioned and the year it was reinstalled, it was largely unable to determine the age of the reconditioned pipe based on the manufacture date.⁵⁷³ This is of particular concern since the manufacture date of reconditioned pipe that is known ranges from 1929 – 1949, while the year of re-install ranges from 1940 – 1983. Thus, taken to the extreme, a segment of pipeline may be 54 years older than specified. As CPSD notes, the risk of failure of a pipe manufactured in 1929 is greater than the risk of pipe manufactured in 1983.

Based on the above, we find that PG&E has failed to retain records of reconditioned and reused pipe. This failure impedes PG&E's ability to safely operate and maintain its transmission pipeline system in violation of Pub. Util. Code § 451. We find PG&E's arguments that CPSD cannot allege there are any missing records until it has completed the MAOP validation process to be without merit. Regardless of whether PG&E has documents identifying the location of reconditioned or reused pipe, it has failed to track this information in a manner that is easily accessible. PG&E's efforts to identify reconditioned and reused pipe commenced in 2011, and was estimated to be completed in early 2013.⁵⁷⁴ Moreover, for reconditioned pipe that has been identified, PG&E still lacks documents to confirm manufacture date. At this point, PG&E has had more than ample time and opportunity to demonstrate that its records are not missing or lost. However, it has not been able to do so. Therefore, we draw the

1.(GasTransmissionSystemRecordsOII_DR_CPUC_024-Q02Atch01).

⁵⁷³ Exh. CPSD-18 (Disc 23) PG&E Response to CPSD Data Request 24, Q2, Attachment 1, Column 24-2(d) (GasTransmissionSystemRecordsOII_DR_CPUC_024-Q02Atch01).

⁵⁷⁴ Exh. CPSD-18 (Disc 23) PG&E Response to CPSD Data Request 24, Q2 at 2 (GasTransmissionSystemRecordsOII_DR_CPUC_024-Q02).

inference that PG&E does not have records concerning reconditioned or reused pipe.

Based on the record, we find that this violation started in 1940. This represents the earliest year of reinstalled pipe where the year of manufacture is unknown. Moreover, we agree with CPSD that this is a continuing violation. As we have discussed in Section 7.1.1, the continued use of unidentified reused or reconditioned pipe presents safety risks, especially when this pipe is attributed higher specifications that reflect installation, but not manufacture, date. Consistent with our discussion regarding the end date for Violation 16 in Section 8.1 above, we find that the end date of this violation should be set as December 20, 2012, the effective date of the *PSEP Decision*.

8.8. Violation 24: Data in Pipeline Survey Sheets and the Geographic Information System

In the early 1990s, PG&E began to develop its Gas Transmission Geographic Information System (GIS). The purpose of this system was “to enhance [PG&E’s] capabilities in managing assets and facilities, and to provide a central access point for pipeline information within many groups in Gas Transmission.”⁵⁷⁵ For example, PG&E used GIS “to store information used in integrity management.”⁵⁷⁶ To populate GIS, PG&E “imported pipeline data from existing pipeline survey sheets, and accepted the accuracy of those records.”⁵⁷⁷

⁵⁷⁵ Exh. PG&E-61 at 3-66:16-18.

⁵⁷⁶ *PG&E’s June 20, 2011 Response* at 2B-7.

⁵⁷⁷ Exh. PG&E-61 at 3-67:3-5. PG&E notes that once GIS was up and running, it no longer updated the Pipeline Survey Sheets, thus rendering those documents obsolete. (*PG&E’s June 20, 2011 Response* at 2A-1.)

CPSD asserts “[t]he accuracy of the GIS data is critical to safe operation and maintenance of PG&E’s gas transmission system because gas control operators, engineers, maintenance personnel, and emergency responders rely on this data in making their decisions.”⁵⁷⁸ It maintains that PG&E failed to quality check the information in the pipeline survey sheets, and thus errors contained in those sheets were carried into GIS.

CPSD argues that since GIS was populated with faulty data, GIS was an unreliable source of data for the integrity management risk assessment models. By way of example, CPSD states that GIS shows that a gas pressure test was performed on Line 132, Segment 180. However, PG&E has not identified any records related to a 1961 gas test and there are no records of such a test in the job file.⁵⁷⁹ As noted in Section 7.2.1 above, pipeline operators are to retain copies of pressure tests for the life of the facility.

Further, CPSD contends that despite GIS’s importance to engineering and operations, the database’s usefulness is limited because it “is populated with many erroneous information, and, blank and assumed entries.”⁵⁸⁰ CPSD asserts that this creates a safety problem since “GIS is the only ready and easily accessible source of data for gas control room operators.”⁵⁸¹

CPSD contends that PG&E’s failure to quality check GIS data and continued use of the erroneous data in the GIS system constitutes a violation of

⁵⁷⁸ CPSD Opening Brief at 133.

⁵⁷⁹ CPSD Opening Brief at 132.

⁵⁸⁰ CPSD Opening Brief at 131.

⁵⁸¹ CPSD Opening Brief at 133.

Pub. Util. Code § 451.⁵⁸² It further reiterates that failure to retain pressure test records is a violation of PG&E's internal policies regarding the retention of engineering records.⁵⁸³ CPSD contends that this is a continuing violation that began in 1974.⁵⁸⁴ CPSD selected this date because that was the date pipeline survey sheet data was either created or transferred to GIS.⁵⁸⁵ CPSD states that this violation would continue until the next level GIS is implemented, assuming that none of the data from the previous GIS system is used in the new database.⁵⁸⁶

PG&E disputes CPSD's assertions about the importance of GIS data. It states that GIS is not the primary source of data for most day-to-day pipeline operations, but only provides a centralized source of information.⁵⁸⁷ PG&E states that GIS was used as a tool to assist with data collection. However, as part of the pre-assessment phase for integrity assessment, PG&E would gather additional data from Job Files and information sources.⁵⁸⁸ It notes that the information obtained during this phase will be used to address the data gaps and update assumed values.⁵⁸⁹

⁵⁸² CPSD Opening Brief at 130.

⁵⁸³ CPSD Opening Brief at 130.

⁵⁸⁴ CPSD Opening Brief at 133.

⁵⁸⁵ 2 RT at 351:4-7 (CPSD/Felts).

⁵⁸⁶ 2 RT 351:20-27 (CPSD/Felts).

⁵⁸⁷ PG&E Opening Brief at 122.

⁵⁸⁸ 10 Joint RT at 1075:17-24 (PG&E/Keas).

⁵⁸⁹ PG&E Reply Brief at 107.

Further, PG&E contends that while GIS serves as a central reference for pipeline information within many groups in Gas Transmission, “it does not serve as [PG&E’s] system of record for pipeline documents, which are maintained in hardcopy format in Job Files.”⁵⁹⁰ It notes “GIS is not PG&E’s primary source of data for most day-to-day pipeline operations, and PG&E maintenance personnel would generally use the actual system of record in connection with daily operations.”⁵⁹¹ Consequently, it contends that there is no basis to conclude that errors in the data in GIS constitute a violation of any law.

PG&E acknowledges that it is “aware that data errors exist within the current GIS system (either from original pipeline data or introduced during the transfer), and [has] established a process by which field personnel can identify data inaccuracies and update that information in GIS.”⁵⁹² Nonetheless, PG&E argues that there is no evidence to suggest that its initial population of GIS lacked sufficient quality control efforts.⁵⁹³ Instead, PG&E asserts that it was industry standard to populate GIS systems with data from pipeline survey sheets without verifying that the data on these sheets were correct.⁵⁹⁴ Further, PG&E notes that PG&E personnel conducted random quality control checks of selected

⁵⁹⁰ Exh. PG&E-61 at 3-67:12-13.

⁵⁹¹ PG&E Reply Brief at 108.

⁵⁹² Exh. PG&E-61 at 3-66:26-29. PG&E refers to Risk Management Instruction No. 6, Rev. 1 (RMI-06) for the process to update changes to GIS. (P3-27411.pdf.) However, RMI -06 was adopted in 2008, with Revision 1 adopted in 2011. (P3-27410.pdf.) We have not identified any specific written procedures used by PG&E to update/change GIS data between the early 1990’s and 2008.

⁵⁹³ PG&E Opening Brief at 123.

⁵⁹⁴ PG&E Reply Brief at 103-104.

plat sheets against the data entered into GIS.⁵⁹⁵ Additionally, PG&E notes that it has a process in place to investigate potential discrepancies in GIS and to allow for updating GIS entries.⁵⁹⁶

PG&E notes that while there were blank and assumed values in GIS, many of these values were associated with the name of the pipe's manufacturer or depth of cover.⁵⁹⁷ PG&E further argues that CPSD has failed to demonstrate that use of conservative assumed values in populating GIS violates any law or industry standard. It contends that "the use of assumed values is accepted in the integrity management context" and that ASME B.31.8S specially provides for the use of assumed values.⁵⁹⁸ Furthermore, PG&E states that the assumed values used in GIS are "based upon known attributes such as the pipe's year of installation and PG&E's pipe purchasing specifications from the relevant time period."⁵⁹⁹

PG&E's testimony downplays the importance of GIS within the company. It argues that the purpose of this system was to provide a central access point for pipeline information within many groups in Gas Transmission and played no role in day-to-day operations. However, PG&E also notes that once GIS was operational, it stopped updating the underlying documents, thus rendering them obsolete. This would mean that the only source of updated pipeline information would be found in GIS. It is difficult to believe that operations and maintenance

⁵⁹⁵ PG&E Opening Brief at 124.

⁵⁹⁶ PG&E Opening Brief at 126.

⁵⁹⁷ PG&E Reply Brief at 108.

⁵⁹⁸ PG&E Opening Brief at 124.

⁵⁹⁹ PG&E Opening Brief at 125.

personnel would refer to outdated and obsolete source documents rather than GIS.

Further, PG&E has noted “[e]lectronic recordkeeping may improve (and at times has improved) the retrievability of source and summary data.”⁶⁰⁰ The data in GIS was obtained from the pipeline survey sheets. Pipeline survey sheets were prepared using information from the Pipeline History Files. The Pipeline History Files contained primarily documents from the Job Files. PG&E has represented that the master Job Files contain original documents associated with a pipeline’s design, construction and testing. Given the ease in retrieving data from GIS, and the source and type of data retained in the system, it is difficult to believe that GIS is not accessed and used by PG&E employees on a day-to-day basis, but only utilized for integrity management purposes.

Despite PG&E’s arguments that GIS is not the only or primary source of data used in integrity management, PG&E witness Keas was unable to specifically identify any other sources of data that were used outside of Job Files.⁶⁰¹ Indeed, Ms. Keas was not employed by PG&E at the time of the San Bruno explosion and had no first-hand knowledge of how PG&E gathered data for integrity management purposes during the period under review in this OII.⁶⁰² Further, Ms. Keas could only discuss PG&E’s data gathering process in broad terms and demonstrated a lack of knowledge where documents that could be used for integrity management purposes would be located within PG&E’s

⁶⁰⁰ PG&E’s June 20, 2011 Response at 2A-9.

⁶⁰¹ 10 Joint RT at 1074:10 – 1075:24 (PG&E/Keas).

⁶⁰² 10 RT at 1441:16 – 1442:26 (PG&E/Keas).

organization.⁶⁰³ We therefore do not find her testimony regarding how GIS is used for integrity management purposes to be credible.

We find it troubling that PG&E states that it did not verify the accuracy of the data in underlying source documents. As noted above, the Job Files are the ultimate source of data for GIS. As we have discussed in Section 8.1 above, since the Job Files are the official records for PG&E's pipeline system, they should be complete and accurate. While it may not have been necessary to perform this verification at the time it populated GIS, PG&E should have, during the course of the last 30 years, verified that there were no inconsistencies between information in the Job Files and GIS data. In particular, we are concerned by PG&E's use of assumed SMYS values, especially since PG&E does not track re-conditioned and re-used pipe.

We want to be clear that we support PG&E's efforts to provide critical pipeline information to its employees in an easily accessible manner. However, this information must be accurate in order to ensure that PG&E's pipeline system is operated and maintained in a safe manner. As CPSD notes, inaccurate and missing data, whether in paper or electronic format, presents safety concerns and reduces its reliability for integrity management purposes.

For these reasons, we find that the inaccurate, missing or assumed data PG&E's GIS system does not allow PG&E to operate its gas transmission system in a safe manner. Accordingly, we find that PG&E has violated Pub. Util. Code § 451.

⁶⁰³ 10 Joint RT at 1076:3 – 1079:5 (PG&E/Keas).

CPSD asserts that this violation commenced in 1974, based on when the pipeline survey sheet data was first created. We agree with PG&E that this date is not appropriate, since GIS was not yet developed. As such, we set the start date of this violation as 1995, when the GIS system was populated with data from the pipeline survey sheets. We agree with CPSD that the inaccurate, missing and assumed data values in GIS are a continuing violation. Consistent with our discussion regarding the end date for Violation 16 in Section 8.1 above, we find that the end date of this violation should be set as December 20, 2012, the effective date of the *PSEP Decision*.

8.9. Violation 25: Data Used in Integrity Management Risk Model

CPSD defines integrity management as the process by which a pipeline operator “evaluates the safety risk to its gas pipelines and prioritizes the replacement of pipe or other safety measures to most effectively reduce that risk and the danger to the public of gas pipe failure.”⁶⁰⁴ PG&E summarizes its risk management efforts as follows:

Before 1985, PG&E sought to reduce risk on its gas transmission system principally through pipeline-specific analyses and projects. Beginning in 1985, PG&E consolidated many of these activities into the Gas Pipeline Replacement Program (GPRP), a programmatic initiative approved in PG&E’s rate cases, which focused on replacing specific categories of pipeline. Since the late 1990s, PG&E has performed risk assessments on its gas transmission pipelines through a Risk Management Program. That program

⁶⁰⁴ CPSD Opening Brief at 135.

anticipated the Integrity Management regulations in 49 C.F.R. Part 192 Subpart O, which were introduced in 2003.⁶⁰⁵

As it pertained to recordkeeping requirements, PG&E states that the regulations

[D]id not materially alter the nature of historical pipeline data that operators were required to maintain. Rather, the rules provided operators with a structure for integrating this historical pipeline data into a comprehensive assessment of the integrity of pipelines in service and provided guidance regarding the creation and maintenance of certain records specific to the Integrity Management process.⁶⁰⁶

CPSD contends that since at least as early as 1985, PG&E was aware that its pipeline data and records were “incomplete, inaccurate, and inadequate.”⁶⁰⁷ As support, it references a 1984 risk analysis study by Bechtel Petroleum, Inc. (*Bechtel Report*).⁶⁰⁸ The purpose of this report was to develop a methodology and database to prioritize replacement of transmission line segments and distribution

⁶⁰⁵ PG&E's June 20, 2011 Response at 6C-1 – 6C-2. On January 28, 2003, the Office of Pipeline Safety issued a Notice of Proposed Rulemaking on pipeline integrity management in high consequence areas. (68 Fed. Reg. 4278.) In that notice, the Office of Pipeline Safety stated that the rules were “intended to require pipeline operators to develop integrity management programs for their entire systems, and to conduct baseline and periodic assessments of pipeline segments the failure of which could impact the health and safety of nearby residents and cause significant damage to their property. These integrity management programs, ... are designed with the goal of identifying the best method(s) for maintaining the structural soundness (i.e., integrity) of transmission pipelines operating across the United States.” (*Id.*) The final rules were adopted on December 15, 2003, with an effective date of January 14, 2004. (68 Fed. Reg. 69788.)

⁶⁰⁶ Exh. PG&E-61 at 3-9:2-8 (Zurcher).

⁶⁰⁷ CPSD Opening Brief at 134.

⁶⁰⁸ See Exh. CPSD-55, *Pipeline Replacement Program Transmission Line Risk Analysis (Bechtel Report)*, dated January 1984.

mains. The *Bechtel Report* noted the inaccuracy and lack of various data variables and stated

The presence of unknowns and highly suspect data variables combined with the lack of mathematical precision in the evaluation of risk parameters places limitations on the applicability of the risk values.⁶⁰⁹

CPSD asserts that the absence of adequate and accurate pipeline records and data for design, manufacture, construction, and operations has resulted in skewed and unsafe integrity management decisions.⁶¹⁰ It maintains that although PG&E's Risk Management Procedure, RMP-08, recognizes the need to verify the quality and consistency of data used for integrity management, PG&E's data is deficient in many areas, including:

- Pipe Age: CPSD states that pipe age is important to integrity management risk assessment because certain other characteristics (e.g., type of weld) are associated with older pipe. Further, pipe age would also reflect the operational conditions (e.g., ground movement, third party damage) the pipe has been subject to.⁶¹¹ CPSD maintains that data regarding pipe age is deficient because: (1) the Job Files, which serve as the primary source of pipe age data, are incomplete, inaccurate or missing; and (2) PG&E cannot identify the age of pipe in its system.⁶¹²
- Pipe Manufacturer: CPSD states that the identity of the pipe manufacturer is an important factor for maintaining pipe safety because PG&E had identified problems

⁶⁰⁹ Exh. CPSD-55, *Bechtel Report* at 14.

⁶¹⁰ CPSD Opening Brief at 134..

⁶¹¹ CPSD Opening Brief at 138.

⁶¹² CPSD Opening Brief at 137-139.

associated with certain manufacturers.⁶¹³ CPSD notes that PG&E had known since at least 1984 that “its data establishing pipe manufacturer was grossly inaccurate.”⁶¹⁴

- Pipe Hydrostatic Testing: As discussed in Section 7.2.1, hydrostatic testing and its associated records are to be retained for the life of the facility. However, as discussed by CPSD, PG&E is unable to locate hydrostatic testing records for all of the pipeline in its gas transmission system.⁶¹⁵
- Pipe Leaks: CPSD states that pipe leaks are critical to assess the remaining life and safety of pipes because “the more leaks on a pipe or segment, the more likely it is that pipe replacement will become necessary.”⁶¹⁶ CPSD notes that the *Bechtel Report* established the importance of leak data and determined that PG&E’s leak data was inaccurate and undercounted.⁶¹⁷
- Pipe Specification: CPSD notes that pipe specifications “differ depending on the date of manufacture, the legal requirements at the time of manufacture, the pipe’s purpose and location within the gas system, and expected operating conditions such as pressure.”⁶¹⁸ CPSD presents various situations where the pipe specification information has been missing or inaccurate and concludes that “in the absence of accurate and complete knowledge about pipe specifications ... PG&E’s integrity management of its pipes became largely meaningless and unsafe.”⁶¹⁹

⁶¹³ CPSD Opening Brief at 139.

⁶¹⁴ CPSD Opening Brief at 140.

⁶¹⁵ CPSD Opening Brief at 141.

⁶¹⁶ CPSD Opening Brief at 141.

⁶¹⁷ CPSD Opening Brief at 142.

⁶¹⁸ CPSD Opening Brief at 143.

⁶¹⁹ CPSD Opening Brief at 144.

- Pipe Reuse: CPSD notes that PG&E's transmission currently has an unknown number of reused pipe. However, because PG&E's records and data shortcomings, PG&E cannot identify the existence or location of this reused pipe.⁶²⁰ CPSD maintains that PG&E's failure to track reused or reconditioned pie makes it "impossible for PG&E to even consider the existence and location of reused pipe in its integrity management of its pipes."⁶²¹
- Pipe Construction: CPSD states that the *Bechtel Report* noted that the relationship between "the practices followed during a pipeline's installation and its performance reliability."⁶²² CPSD notes that construction information would be located in the Job Files. However, Job Files cannot be relied on for integrity management because they are missing, incomplete and inaccurate.⁶²³
- Operations: CPSD notes that the operating conditions of the pipes will be considered to determine whether the pipes are to be replaced.⁶²⁴ It notes that one of the operating conditions considered is operating pressure. As discussed above, CPSD states that PG&E does not have complete and accurate operating pressure records for all pipe in its system.⁶²⁵ CPSD notes that "the Code of Federal Regulations gas rules in place since 2004 explicitly require PG&E to consider pressure cyclical fatigue and ground movement in its system integrity management consideration of potential threats."⁶²⁶

⁶²⁰ CPSD Opening Brief at 146.

⁶²¹ CPSD Opening Brief at 146.

⁶²² CPSD Opening Brief at 147.

⁶²³ CPSD Opening Brief at 147.

⁶²⁴ CPSD Opening Brief at 148.

⁶²⁵ CPSD Opening Brief at 149.

⁶²⁶ CPSD Opening Brief at 149.

CPSD notes that due to incomplete records, PG&E's Integrity Management Program revised its risk management weighting of threats by "de-emphasis of both the fact and importance of missing data, and by heightened weighting priority to corrosion and third party damage, areas not so dependent on data."⁶²⁷ For example, CPSD notes that the weighting for leak history changed from 16% in 1984 to 4% in 1995, and the weighting for pipe age was reduced from 40% in 1984 to 4% in 1995.⁶²⁸

CPSD further argues that PG&E's use of assumed values to replace unknown values caused by missing data cannot support integrity management. "Integrity management assessments and decisions ascertain relative risk of a particular pipe or segment as compared to the relative risk of other pipes or segments."⁶²⁹ CPSD argues that if large numbers of pipes have been assigned the same conservative value, "a risk comparison between the pipes becomes largely meaningless for integrity management purposes" and the ability to prioritize pipeline inspection, testing and replacement is lost.⁶³⁰ CPSD concludes:

The priorities that result from running the Integrity Management model with inaccurate, incomplete, and assumed data are erroneous. Thus, PG&E may or may not be replacing the pipe that presents the highest risk.⁶³¹

CPSD contends that PG&E violated Pub. Util. Code § 451 because its IM Model was distorted due to missing data and did not accurately reflect actual

⁶²⁷ CPSD Opening Brief at 152.

⁶²⁸ CPSD Opening Brief at 152.

⁶²⁹ CPSD Opening Brief at 154.

⁶³⁰ CPSD Opening Brief at 155.

⁶³¹ CPSD Opening Brief at 153.

safety risks on PG&E's transmission system.⁶³² It asserts that this is a continuing violation which ran from 2004 to 2010.

DRA supports CPSD's assertions. It further notes that PG&E witness Zurcher's testimony only compared PG&E's written integrity management program protocols to the federal regulations. However, he did not observe PG&E's actual practices. Consequently, DRA argues that PG&E's witnesses "assiduously ignore the evidence suggesting that PG&E employees were not actually complying with these policies and protocols."⁶³³

PG&E states that CPSD incorrectly contends that its integrity management program relies solely on the GIS database and Job Files for information. It states that while GIS may be the first source of data, "a second step of the data gathering process occurs during the pre-assessment phase of each integrity assessment."⁶³⁴ This second step would include evaluating hardcopy records and physical assessments. GIS would then be update to reflect any potential threats that had not been previously identified.⁶³⁵

PG&E further notes that the federal rules and ASME B.31.8 provide for the use of conservative, assumed values.⁶³⁶ Consequently, PG&E maintains that there is no violation of law in using assumed values to fill in missing pipeline specifications.

⁶³² CPSD Opening Brief at 134.

⁶³³ DRA Opening Brief at 30.

⁶³⁴ PG&E Opening Brief at 127; see also, 11 Joint RT at 1176:27-1177:7 (PG&E/Keas).

⁶³⁵ PG&E Opening Brief at 128.

⁶³⁶ PG&E Opening Brief at 128; see also, Exh. PG&E-61 at 3-54 (Keas).

We have already considered and addressed many of the data deficiencies alleged by CPSD in other parts of this decision and do not repeat them here. Additionally, we have considered and addressed CPSD's allegations regarding GIS. We have found sufficient evidence to support CPSD's allegations on most of these issues.

PG&E has stated that its integrity assessment includes accessing data in GIS, reviewing hardcopy records and physical assessments. As we have previously determined, GIS contained inaccurate, missing and assumed data values, while hardcopy records may be incomplete, inaccurate, or missing. Under these circumstances, there is a risk that the faulty data is used in assessment of risks.

Finally, as noted by CPSD, PG&E used assumed data values in GIS. We discuss this issue elsewhere in this decision.⁶³⁷ However, we note that while the use of assumed values is permitted under the Federal Regulations, the record demonstrates that PG&E has not used the most conservative values in those instances where there was missing pipeline information.

We agree with DRA that PG&E has failed to demonstrate that PG&E's actual integrity management practices did in fact follow its written procedures. Although PG&E witness Keas testified extensively on PG&E's data gathering processes for performing risk assessments, she has no first-hand knowledge that these processes were in fact followed between 2004 and September 9, 2010.⁶³⁸ Similarly, PG&E witness Zurcher's testimony of PG&E's integrity management procedures was based solely on his review of PG&E's manuals and documents,

⁶³⁷ See, e.g., Section 8.8 and 9.2.1.

⁶³⁸ 10 RT 1441:16-26 (PG&E/Keas).

not actual observation of the procedures.⁶³⁹ For these reasons, we give no weight to the testimony of these witnesses regarding the actual data used in PG&E's integrity management processes.

Based on these considerations, we find that PG&E's ability to assess the integrity of its pipeline system and effectively manage risk is compromised by the availability and accuracy of its pipeline data. This presents safety risks to the public and is, thus, a violation of Pub. Util. Code § 451. CPSD asserts that the start date of this violation should be 2004, with the implementation of the integrity management rules. We agree and set the start date as December 17, 2004. Pursuant to 49 CFR 192.907(a), this is the this is the last date by which an operator "must develop and follow a written integrity management program that contains all the elements described in § 192.011 and that addresses the risks on each covered transmission pipeline segment." Consistent with our discussion regarding the end date for Violation 16 in Section 8.1 above, we find that the end date of this violation should be set as December 20, 2012, the effective date of D.12-12-030.

8.10. Violation 26: Missing Report for 1988 Weld Failure

CPSD alleges that at the time of the San Bruno explosion, PG&E was unaware of a 1988 weld failure on another section of Line 132 because the weld failure report was missing.⁶⁴⁰ CPSD maintains that as a result of losing this report, PG&E did not include information regarding a manufacturing threat to Line 132 in its integrity management model.

⁶³⁹ Exh. PG&E-61 at 3-5 – 3-6.

⁶⁴⁰ CPSD Opening Brief at 157.

The documents relied on by CPSD in this violation may be found in Exh. PG&E-65 at Exhibit 3-17. The documents include a *Material and/or Equipment – Problem or Failure Report* which identified a pinhole leak on a longitudinal weld in a section of 30 inch pipe on Line 132.⁶⁴¹ This section of pipe was subsequently replaced. Additionally, there is a letter dated March 1, 1989 which references the removed section of transmission pipe and states, in part,

X-ray, dye penetrant, and magnetic particle inspections were performed on the submitted section, but these did not locate the leak. The x-ray and subsequent metallographic examination identified several weld shrinkage cracks, but they did not extend through the wall. The cracks are pre-service defects, i.e., they are from the original manufacturing of the pipe joint.⁶⁴²

CPSD maintains that the results of these inspections and examinations would have been contained in a report. CPSD contends that this report should have been retained for the life of the pipe consistent with PG&E Standard Practice, S.P. 1605.⁶⁴³ CPSD believes that this report “could have led to discovery and repair of the bad welds in Segment 180.”⁶⁴⁴ Because PG&E does not have a copy of the report, CPSD asserts that PG&E violated both its standard practice and Pub. Util. Code § 451. CPSD contends that this is a continuing violation that ran from 1988 to 2010.

⁶⁴¹ This report may also be found as Attachment 1 to PG&E’s supplemental response to CPSD Data Request 41, Q5 (GasTransmissionSystemRecordsOII_DR_CPUC_041-Q05Supp01Atch02.pdf).

⁶⁴² Exh. PG&E-65 at Exhibit 3-17.

⁶⁴³ CPSD Opening Brief at 157-158.

⁶⁴⁴ CPSD Opening Brief at 161.

PG&E contends that CPSD has not proved that a weld failure report was ever created. Moreover, PG&E states that even if a report had been created, there was no legal requirement that it be retained for the life of the pipe and that the information contained in the report had little engineering significance.⁶⁴⁵ Under those circumstances, and based on the testimony of PG&E witness Zurcher, PG&E concludes that the presence of pinhole leaks was not relevant to its pipeline system.⁶⁴⁶ Finally, PG&E asserts that CPSD has failed to meet its burden of proof that if a failure report existed, it went missing.⁶⁴⁷

We are not convinced, based on the evidence presented, that PG&E had prepared a separate report as part of its inspection of the weld failure. As explained by PG&E, the reference to the “attachment” to the March 1, 1989 letter may have been to the initial material failure report. Further, the information provided in the letter may be the extent of the “report” provided by the inspection.

Additionally, CPSD appears to be suggesting that the only way PG&E would have known about the weld failure would have been by reading the report.⁶⁴⁸ However, given all the other documentation, it is clear that PG&E knew about the weld failure and that the weld shrinkage cracks were from the original manufacturing of the pipe. PG&E’s failure to conduct inspections of other pipes with similar longitudinal welds cannot be attributed to poor recordkeeping practices, but rather a management decision to not consider this

⁶⁴⁵ PG&E Opening Brief at 130.

⁶⁴⁶ PG&E Opening Brief at 130.

⁶⁴⁷ PG&E Opening Brief at 130-131.

⁶⁴⁸ CPSD Opening Brief at 158.

type of defect to be significant or relevant.⁶⁴⁹ Management decisions based on accurate and available information that compromise the safety of PG&E's gas transmission pipeline system are outside the scope of this proceeding.

For the reasons discussed above, we do not find a violation.

8.11. Violation 27: Missing Report for 1963 Weld Failure

This violation arises from a 1963 fire and explosion on Line 109. As part of the investigation into this incident, PG&E requested a report from a consulting metallurgist on the quality of a circumferential weld and the probable causes of its rupture. According to a transmittal letter dated March 13, 1963, a copy of the report was transmitted to the Commission.⁶⁵⁰ Although PG&E was able to provide this cover letter, it could not locate a copy of the report.⁶⁵¹ CPSD asserts that PG&E's failure to retain this metallurgical report means that the probable cause of the rupture was not incorporated into PG&E's inspection program or integrity management program.⁶⁵² Further, CPSD asserts that the information in the report "might have been used in the ongoing inspection and preventative maintenance of pipe of similar manufacturing history that is installed in the PG&E transmission system."⁶⁵³

CPSD contends that PG&E's failure to retain this report is a violation of Pub. Util. Code § 451 since the report "is an engineering record directly relevant

⁶⁴⁹ PG&E Reply Brief at 117.

⁶⁵⁰ P7-7094.pdf at 1. A copy may also be found in Exh. PG&E-65 at Exhibit 3-16.

⁶⁵¹ PG&E Response to CPSD Data Request 41, Q5 (GasTransmissionSystemRecordsOII_DR_CPUC_041-Q05.pdf).

⁶⁵² CPSD Opening Brief at 162.

⁶⁵³ CPSD Opening Brief at 162-163.

to the integrity of PG&E's transmission pipelines" and should have been retained for the life of the pipe. CPSD further asserts that this is a continuing violation that ran from 1963 to 2010.

PG&E's arguments regarding this violation is similar to those raised in response to Violation 26. It contends that there was no legal requirement for it to retain a metallurgical report relating to a 1963 pipe failure near Alemany Boulevard. Further, PG&E argues that CPSD failed to identify any specific rule, regulation or industry standard that would have required that this record be maintained. Finally, PG&E maintains that CPSD did not provide an evidentiary basis for determining when this report went missing. As such, PG&E contends that CPSD has failed to meet its burden that this was a continuing violation.

In this instance, we find that CPSD's alleged violation is supported by the evidence. Unlike Violation 26 above, a consultant's report regarding the weld failure was prepared, and a copy was provided to the Commission. The report in question was not a regarding a routine inspection, where a pinhole leak was found. Rather, this report concerned the quality of a circumferential weld and the probable causes of the rupture of a 26-inch gas line. We would find it difficult to conclude that such an event would be considered insignificant or irrelevant. Thus, from a safety standpoint, this record should have been retained. PG&E's comment that it provided a copy of this report to the Commission does not absolve it from having responsibility for retaining a copy. Responsibility for maintaining records to ensure safe operations of a natural gas pipeline system rests on the operator, not the regulator.

We further note that PG&E lists weld inspection reports as being part of a job file. Thus, PG&E's own policies specified that these types of records should be retained for the life of the pipe. Further, since the Job Files are the source of

data for integrity management, this report should have been available so that it could be included in PG&E's assessment of manufacturing threats.

For the reasons discussed above, we find that PG&E's failure to retain the metallurgist report constitutes a violation of Pub. Util. Code § 451. We find that this violation occurred in 1963, after PG&E submitted a copy of the report to the Commission. Consistent with our discussion regarding the end date for Violation 16 in Section 8.1 above, we find that the end date of this violation should be set as December 20, 2012, the effective date of the *PSEP Decision*.

9. Alleged Violations Predicated on the Reports and Testimony of Dr. Paul Duller and Allison North

9.1. Methodology for Reviewing PG&E's Records Management

CPSD witnesses Duller and North reviewed PG&E's records management activities using the Generally Accepted Record-keeping Principles (GARP) and the Information Maturity Model defined by ARMA International.⁶⁵⁴ According to CPSD's witnesses, GARP and the Information Governance Maturity Model are "widely adopted by records managers in the USA; and, engineering and pipeline standards and guidelines that include record-keeping practices that are directly relevant to PG&E gas safety."⁶⁵⁵

The GARP principles used to assess the maturity of PG&E records management were: accountability, transparency, integrity, protection, compliance, availability, retention and disposition.⁶⁵⁶ CPSD witnesses

⁶⁵⁴ Exh. CPSD-6 at 1-8:12-14.

⁶⁵⁵ Exh. CPSD-6 at 3-14:10-12.

⁶⁵⁶ Exh. CPSD-6 at 3-15 - 3-16.

Duller/North state that these principles are consistent with other standards used to evaluate PG&E's recordkeeping activities.

The GARP principles of Compliance, Availability and Integrity are directly related to the three National Transportation Safety Board (NTSB) documentation quality criteria cited in their reports and urgent safety recommendations (i.e. Traceable, Verifiable, and Complete), in that an increase/decrease in one or more of the NTSB parameters would result in a corresponding increase/decrease in the GARP Integrity value. The remaining GARP principles of Accountability, Transparency, Retention, Protection, Security, and Disposition, while still important to the records management process, have a more indirect and convoluted link with these parameters.⁶⁵⁷

PG&E challenges the *Duller/North Report* on various grounds. First, it notes CPSD witness Halligan had testified that a violation of Pub. Util. Code § 451 was based on a failure to use "best engineering practices."⁶⁵⁸ However, Dr. Duller and Mrs. North are not engineers and "did not evaluate PG&E's records management practices to determine if they comported with best engineering or best records practices."⁶⁵⁹

We have addressed the "best engineering practices" standard in connection with Pub. Util. Code § 451 in Section 5.3 above. As discussed there, in order to safely operate a high pressure gas transmission pipeline system and make decisions on the need to test, replace or repair a pipe, an operator must have the necessary design, installation, operating history and testing records. Moreover, as noted by PG&E witness Zurcher, industry practices must meet or

⁶⁵⁷ Exh. CPSD-6 at 3-16:12-20.

⁶⁵⁸ PG&E Opening Brief at 52 & 136.

⁶⁵⁹ PG&E Opening Brief at 52 & 137.

exceed existing regulations.⁶⁶⁰ As such, failure to properly manage and maintain pipeline records to ensure safe operation of a natural gas transmission system would be contrary to the “best engineering practices” and a violation of Pub. Util. Code § 451.

PG&E next notes that GARP and the Information Governance Maturity Model were not published until 2009. As such, PG&E raises concerns that it was not provided fair notice at the time of the events that give rise to alleged violations occurred that it would be held to these standards.⁶⁶¹ PG&E further asserts that since GARP is not the regulatory standard in California, applying the principles would be a violation of due process.⁶⁶² As support, PG&E notes that neither CPSD nor its recordkeeping consultants had previously used GARP as an assessment tool.⁶⁶³

Although GARP and the Information Governance Maturity Model were not published until 2009, we do not agree that they create a new standard for evaluating PG&E’s recordkeeping practices. A review of the principles reveals that an operator must:

1. Have management oversight over its recordkeeping program (Accountability);
2. Have policies and procedures regarding the creation, retention and disposition of records (Transparency, Retention and Disposition);

⁶⁶⁰ 8 Joint RT at 752:1-11 (PG&E/Zurcher).

⁶⁶¹ PG&E Opening Brief at 53-54.

⁶⁶² PG&E Opening Brief at 54.

⁶⁶³ PG&E Opening Brief at 133.

3. Have records that “have a reasonable and suitable guarantee of authenticity and reliability” (Integrity);
4. Protect records and information that is private, confidential, privileged, secret or essential to business continuity (Protection);
5. Have recordkeeping policies that comply with applicable laws and regulations, as well as internal policies (Compliance); and
6. Maintain records in a manner that allows them to be timely and efficiently retrieved (Accessibility).

Thus, while GARP was not published until 2009, we do not believe PG&E could have safely operated its gas transmission pipeline system in 1955 if it were not performing these activities. Further, PG&E witness Dunn, also states “the GARP principles themselves are fairly innocuous and do not represent anything new or earth shattering in the industry.”⁶⁶⁴ PG&E has always been required to maintain and retain its pipeline records in compliance with federal and state statutes and regulations. While GARP may represent a new methodology for assessing compliance, it does not create new standards. For these reasons, PG&E was aware of and had notice of the record management standards at all times.

We are also not persuaded by PG&E’s argument that CPSD is precluded from using GARP to assess PG&E’s records management because it had never used GARP before. That is not a surprise, since the GARP principles were not published until March 2009. However, it is likely that with the passage of time, more companies will be using the GARP principles to assess records management. This conclusion is supported a survey cited by PG&E witness Dunn, which notes that as of May 19, 2012, approximately 80% of those

⁶⁶⁴ Exh. PG&E-62 at MD-9:10-11 (PG&E/Dunn).

responding had or would be planning to use GARP.⁶⁶⁵ While PG&E downplays the number of companies using GARP, we note that consultants at PwC used GARP as a source for the PG&E Gas Records and Information Management Assessment effort.⁶⁶⁶ Based on the increasing acceptance and use of GARP, we find that CPSD is not precluded from using this assessment methodology simply because it has not previously used this methodology before.

PG&E additionally contends that even if the GARP model were applicable, it would only be appropriate for a current, not a historical, assessment of records.⁶⁶⁷ It argues that the *Duller/North Report* does not take “full account of evolving records retention schedule development, changes in information technology or changes in the legislative and regulatory environment in which PG&E operated.”⁶⁶⁸ PG&E’s arguments would be given more weight if it were not for the fact that many of the deficiencies identified in the *Duller/North Report* concern records that were to have been retained for the life of the pipeline. Thus, the fact that PG&E’s current records have missing, incorrect or incomplete data do reflect PG&E’s past recordkeeping practices, as it is highly unlikely that these deficiencies occurred overnight.

PG&E further challenges the conclusions reached in the *Duller/North Report*. Among other things, PG&E contends that the report fails to consider the reasons why PG&E had adopted a decentralized approach recordkeeping and

⁶⁶⁵ See, Exh. PG&E-62 at MD-8 – MD-9.

⁶⁶⁶ Exh. TURN-16, Appendix B, *Gas Operations Records and Information Management Assessment* at 14.

⁶⁶⁷ PG&E Opening Brief at 134.

⁶⁶⁸ PG&E Opening Brief at 134.

does not acknowledge the evolution of PG&E's records management program over time.⁶⁶⁹ PG&E notes that in contrast PG&E witness Dunn considered PG&E's records management practices in light of PG&E's business structure and utility operations.⁶⁷⁰

As we have already discussed, regardless of whether PG&E takes a decentralized or centralized approach to records management or retains records in paper or electronic format, it is still required to retain records to ensure the safe operation of its gas transmission pipeline system. The fact that the 1994 retention schedules may provide more information and "references to 'justification' for the retention period"⁶⁷¹ than the 1964 schedules does not address this requirement. Moreover, as CPSD notes, PG&E witness Dunn did not review any Job Files or any other pipeline records in her assessment of PG&E's recordkeeping practices.⁶⁷² As such, she has no first-hand knowledge of PG&E's actual records management practices. Consequently, we give Ms. Dunn's testimony concerning records management little weight.

Finally, PG&E argues that the *Duller/North Report* fails to "benchmark PG&E's practices against those of others in the industry" to determine whether they were reasonable.⁶⁷³ PG&E contends that if CPSD had done so, it would

⁶⁶⁹ PG&E Opening Brief at 137-138.

⁶⁷⁰ PG&E Opening Brief at 137.

⁶⁷¹ Exh. PG&E-62 at MD-13.

⁶⁷² CPSD Reply Brief at 108; see also Exh. PG&E-62 at MD4 - MD-5 & MD-B-1 - MD-B-5 (listing information sources used by Ms. Dunn).

⁶⁷³ PG&E Opening Brief at 139.

have found that “PG&E’s practices did not ‘stand out from the pack’ of other operators.”⁶⁷⁴

Contrary to PG&E’s belief, whether PG&E’s practices “stand out from the pack” is not the basis for determining whether it has violated 49 CFR 192, Pub. Util. Code § 451, GO 112, or any other statute, regulation or requirement. Indeed, none of the witnesses who have noted recordkeeping “challenges” faced by gas operators has stated that the prevailing industry practice is to maintain records in violation of the law. Further, it is unclear whether any of the gas operators referred to by the witnesses as having recordkeeping deficiencies are subject to regulation by this Commission, Pub. Util. Code § 451 or GO 112. Thus there is no reason to consider whether PG&E’s actions were “reasonable” in comparison to other operators if PG&E is violating the law.

9.2. General Records Management (Violation A)

Based on their review of PG&E’s policies, procedures, practices and records, witnesses Duller/North concluded:

PG&E failed to maintain the records management practices necessary to promote the safety of its patrons, employees and the public. Examples of these failures include the lack of a company-wide strategy for record keeping; poor implementation of records management standard practices; inappropriate disposal of Pipeline History Files; inadequate management and control of job folders; poor metadata quality control; and the uncontrolled distribution, duplication and storage of pipeline-related job folders.⁶⁷⁵

⁶⁷⁴ PG&E Opening Brief at 140.

⁶⁷⁵ Exh. CPSD-6 at 6-25:6-11.

CPSD alleges the following deficiencies associated with PG&E's management of its gas transmission pipeline records:

- Many of PG&E's records and data are missing, inaccurate, incomplete and duplicative. As a result, many records are not traceable or verifiable.
- PG&E executive management failed to comprehensively address its mandatory recordkeeping requirements.

As a result of these deficiencies, CPSD contends that PG&E practiced substandard records management. CPSD concludes that these are violations of 49 CFR 192.709; Pub. Util. Code § 451; Section 107 of GO 112, 112A and 112B; and ASME B.31.8.⁶⁷⁶ CPSD maintains that these are continuing violations that run from 1955 to 2010.⁶⁷⁷

9.2.1. Missing, Inaccurate, Incomplete or Duplicative Records and Data

CPSD identifies the following types of records were missing, inaccurate, incomplete or duplicative:

- Missing strength test records
- Missing weld records
- Incomplete Job Files
- Missing Job Files
- Duplicate Job Files
- Missing operating pressure records
- Inaccurate and erroneous GIS data
- Missing GIS data and failure to use the most conservative values when there was missing GIS records

⁶⁷⁶ CPSD Opening Brief at 165.

⁶⁷⁷ CPSD Opening Brief at 189.

- Lack of complete and comprehensive inventory of all gas leaks over the lifetime of pipelines
- Missing Pipeline History Files
- Missing records showing reused pipe
- Missing and incomplete metallurgical reports⁶⁷⁸

CPSD requests that the Commission draw adverse inferences against PG&E with respect to the missing and incomplete records listed above. As discussed in Section 5.2.1.2 above, we have found that adverse inferences should be drawn against PG&E in those instances where it has not been able to provide documents that it had been required to retain under state or federal statutes or regulations. As a result, we have already made the following determinations:

Strength Test Records – CPSD alleges that there are 23,760 pipe segments within Class 3 and 4 High Consequence Areas lacking strength test records between 1953 and 2010.⁶⁷⁹ We have considered this alleged violation in Section 8.3 above and found CPSD has proven this allegation.

Weld Records – CPSD states that, based on its review of Job Files at PG&E's Emeryville storage facility, only 5.7% of the files contained weld records.⁶⁸⁰ Consequently, CPSD alleges that PG&E has either failed to comply with requirements concerning the creation and retention of weld records. We have considered this alleged violation in Section 8.4 above and found CPSD has proven this allegation.

Job Files – CPSD raises various allegations concerning PG&E's Job Files. First, it contends that PG&E's Job Files are incomplete (missing documents) or missing.⁶⁸¹ It also maintains that PG&E

⁶⁷⁸ CPSD Opening Brief at 165-183.

⁶⁷⁹ CPSD Opening Brief at 166.

⁶⁸⁰ CPSD Opening Brief at 167.

⁶⁸¹ CPSD Opening Brief at 167-169.

does not have a master index of Job Files and that there are multiple copies of the same job file.⁶⁸² We have considered this alleged violation in Section 8.1 above and found CPSD has proven this allegation.

Operating Pressure Test Records – CPSD notes that PG&E has admitted that operating pressure records from 1965 – 1970 are no longer available, and that it is missing operating pressure data from 1999 for all of its pipelines.⁶⁸³ We have considered these assertions in Section 8.5 above and found CPSD has failed to prove this allegation.

GIS Data – CPSD asserts that PG&E knew the Pipeline Survey Sheets, which were used to populate GIS, had data quality issues, but did not take any steps to validate the information.⁶⁸⁴ As a result, CPSD contends that PG&E's GIS system contained inaccurate and erroneous data for key safety attributes, including wall thickness and longitudinal seams.⁶⁸⁵ We have considered these assertions in Section 8.8 above and found CPSD has proven this allegation.

Leak Data – CPSD asserts that PG&E's leak data is retained in separate databases and multiple formats (hard copies and electronic).⁶⁸⁶ Consequently, CPSD concludes that leak data is not readily accessible. Further, CPSD notes that leak data in the IGIS system contains data entry errors or are missing.⁶⁸⁷ As a result, CPSD contends that PG&E has incomplete and inaccurate safety information. We have considered these assertions in Section 8.6 above and found CPSD has proven this allegation.

⁶⁸² CPSD Opening Brief at 169-170.

⁶⁸³ CPSD Opening Brief at 171.

⁶⁸⁴ CPSD Opening Brief at 172-173.

⁶⁸⁵ CPSD Opening Brief at 171-172.

⁶⁸⁶ CPSD Opening Brief at 178.

⁶⁸⁷ CPSD Opening Brief at 178.

Pipeline History Files – CPSD asserts that PG&E failed to retain Pipeline History Files, as required by PG&E's Standard Practice 463.7.⁶⁸⁸ We have considered these assertions in Section 8.2 above and found CPSD has failed to prove this allegation.

Reused Pipe Records – CPSD asserts that prior to the San Bruno explosion, PG&E had not maintained an organized set of records showing the location and use of reconditioned pipe.⁶⁸⁹ We have considered these assertions in Section 8.7 above and found CPSD has proven this allegation.

In addition to the allegations above, CPSD challenges PG&E's use of assumed data values in those instances where there were missing values in GIS.⁶⁹⁰ CPSD states PG&E has represented that in those instances where PG&E did not have records, it would make conservative assumptions about pipeline attributes based on the era when the pipeline was constructed and the types of material purchased by PG&E at that time.⁶⁹¹ However, CPSD notes that there are instances where PG&E has revised the assumed values for joint efficiency, wall thickness and SMYS to either more conservative assumed values or more conservative known values.⁶⁹² CPSD maintains that it would be reasonable to infer that the initial assumed values were not conservative enough to ensure safe operation of its system.⁶⁹³ CPSD further asserts that PG&E's assumed SMYS

⁶⁸⁸ CPSD Opening Brief at 179-181.

⁶⁸⁹ CPSD Opening Brief at 181-182.

⁶⁹⁰ CPSD notes that PG&E's audit change log noted that of the 267,247 entries in PG&E's audit change log between 1999 and 2010, 112,959 (42%) of the changes were made after the San Bruno explosion. CPSD contends that these changes were necessary to correct bad GIS records that existed before the explosion. (CPSD Opening Brief at 174.)

⁶⁹¹ CPSD Opening Brief at 174.

⁶⁹² CPSD Opening Brief at 175 (referring to Exh. CPSD-69).

⁶⁹³ CPSD Opening Brief at 176.

values were above 24,000 psi and, therefore, did not comply with federal regulations.⁶⁹⁴

PG&E asserts that CPSD relies on a limited number of changes in PG&E's HCA audit change log to incorrectly conclude that any changes in assumed values in GIS was to correct errors.⁶⁹⁵ It maintains that CPSD "ignores the purpose of the audit change log, the significance of the data in the HCA audit change log, and the multiple potential explanations that contradict CPSD's desired inference."⁶⁹⁶ Among other things, PG&E notes that the change in assumed values may be due to "new installation and replacement work, as well as records validation."⁶⁹⁷ PG&E states that CPSD did not prove "a single pipeline segment in PG&E's database had an incorrect assumed value that was later changed, through records research, to a more conservative value."⁶⁹⁸

We agree with PG&E that there are many possible explanations why the assumed values in GIS were revised. Nonetheless, the purpose of the change would be the same – to correct (or make more accurate) the assumed value in response to new information that the assumed value was incorrect. It is possible that PG&E's had adopted what it had considered to be conservative assumed data values based on the information that it had at the time, but that new information demonstrated that a more conservative value was appropriate. However, the burden of producing this evidence rests with PG&E. Consistent

⁶⁹⁴ CPSD Opening Brief at 176.

⁶⁹⁵ PG&E Reply Brief at 132.

⁶⁹⁶ PG&E Reply Brief at 132.

⁶⁹⁷ PG&E Reply Brief at 133.

⁶⁹⁸ PG&E Reply Brief at 133.

with our discussion regarding the setting of MAOP under the Grandfather Clause in Section 5.7 above, PG&E must have sufficient documents to support the assumed data values utilized in GIS. As we have found in other parts of this decision, PG&E has failed to maintain the design, maintenance and operating records as required by state and federal regulations, statutes and its own standard practices. Thus, to the extent PG&E did not have records to support the initial assumed values, we infer that the initial assumed values were not conservative enough to ensure safe operation of PG&E's pipeline system. This would constitute a violation of Pub. Util. Code § 451.

Finally, CPSD contends that PG&E failed to keep all gas pipeline failure metallurgical reports at the PG&E Metallurgical Testing Library and Archive in San Ramon. CPSD further notes that the reports that were retained there were not easily accessible or complete.⁶⁹⁹ CPSD states that it had conducted interviews with PG&E staff in the Materials Chemistry Support Group (known as ATS) and was informed that not all of the reports prepared by third party contractors relating to analytical investigations undertaken by the Gas Transmission Division Integrity Management program were provided for long term storage.⁷⁰⁰ CPSD further notes that records stored at San Ramon were often incomplete or missing.⁷⁰¹ CPSD therefore maintains that this is a serious recordkeeping deficiency.

PG&E disputes CPSD's conclusions, noting that the allegations focused primarily on the way the metallurgical reports were organized, but did not

⁶⁹⁹ CPSD Opening Brief at 183.

⁷⁰⁰ Exh. CPSD-6 at 6-80.

⁷⁰¹ Exh. CPSD-6 at 6-80 – 6-81.

establish violations of law.⁷⁰² PG&E further notes the *Duller/North Report*, at best, “establishes that PG&E has not inventoried its ATS records,” not that any records are missing.⁷⁰³

As we have repeatedly stated above, PG&E bears the responsibility for creating and retaining the records necessary to ensure safe operation of its natural gas transmission pipeline system. Regardless of whether PG&E takes a centralized or decentralized approach to recordkeeping, retains documents in hardcopy or digital format, the ATS Metallurgical Testing Library and Archive is a source of information for integrity management process. As such, reports of metallurgical testing and inspection work performed by a third-party that impact integrity management should be stored there.

Additionally, aside from arguing that it is not required to store these reports in a specific location or format, PG&E has not explained how these records are made known and available to employees. Consequently, even if the reports had been retained, there is no assurance that they would be included in evaluating a pipeline’s integrity.

For these reasons, we find that PG&E’s failure to retain all gas pipeline failure metallurgical reports and make them known and available to employees negatively impacts PG&E’s integrity management process. This means that PG&E could not ensure safe operation of its pipeline system. This would constitute a violation of Pub. Util. Code § 451.

⁷⁰² PG&E Reply Brief at 138.

⁷⁰³ PG&E Reply Brief at 139.

9.2.2. Mandatory Recordkeeping Requirements

CPSD contends that the violations it has identified above are “proof of a systematic failure of PG&E management to comprehensively address mandatory recordkeeping requirements across PG&E’s gas transmission system.”⁷⁰⁴ CPSD raises three points in particular:

- Prior to September 9, 2010, no one in PG&E’s Gas Transmission Division had formal responsibility for coordinating records management across all the different business units and offices.⁷⁰⁵ Further, PG&E staff was not trained or educated in records management.⁷⁰⁶
- Between 1948 and 1967, no PG&E staff had recordkeeping responsibilities across the gas transmission part of the company.⁷⁰⁷
- The PwC Report concluded that information was not “managed as a corporate asset” and observed that employees faced various challenges to access information.⁷⁰⁸

PG&E argues that CPSD improperly concluded that PwC’s recommendations regarding PG&E’s recent recordkeeping practices meant that PG&E’s management has historically not addressed recordkeeping requirements.⁷⁰⁹ It contends that CPSD’s assertions are based on conjecture, not evidence in the record, and attempts to place the burden on PG&E to prove that

⁷⁰⁴ CPSD Opening Brief at 183.

⁷⁰⁵ CPSD Opening Brief at 184.

⁷⁰⁶ CPSD Opening Brief at 185.

⁷⁰⁷ CPSD Opening Brief at 184.

⁷⁰⁸ CPSD Opening Brief at 185.

⁷⁰⁹ PG&E Reply Brief at 139.

its recordkeeping practices were not adequate. Further, PG&E argues that CPSD is barred from raising any allegations concerning how PG&E had allocated its recordkeeping responsibilities 45 to 65 years ago under the doctrine of laches.⁷¹⁰ Nonetheless, it notes that various documents in the record show PG&E's records retention regulations and guidance documents dated back to the 1915.⁷¹¹ Further, PG&E's records retention Standards Practices from 1951 to 2010 identified the PG&E employees "responsible for supervision of the preservation and indexing of records."⁷¹²

Although PG&E identifies a number of documents relating to the records retention policies and procedures, none of these documents directly respond to the assertions raised by CPSD. As we have discussed elsewhere in this decision, PG&E has not always created, managed or retained gas transmission pipeline records as required by federal and state statutes and regulations or GO 112. Based on the record, it would appear that PG&E established uniform recordkeeping requirements for all corporate documents, and delegated Division Managers to determine the records to be retained. However, there is nothing in the record that would indicate that employees in the business units or locations were educated on records management and the importance of various types of records.

PG&E states that it has historically "made pragmatic recordkeeping choices aimed at making important gas safety records available to those who use

⁷¹⁰ PG&E Reply Brief at 139-140.

⁷¹¹ PG&E Reply Brief at 140.

⁷¹² PG&E Reply Brief at 140.

them.”⁷¹³ However, due to relocations or business reorganizations, valuable records had the potential to be inadvertently lost or discarded. Further, decisions on what records to be retained or discarded in office moves and relocations took into consideration regulations in effect at that time and “were influenced by operational needs, storage availability and cost, engineering judgment, and recordkeeping requirements.”⁷¹⁴ Based on PG&E’s decentralized recordkeeping approach and the evidence in the record, we agree with CPSD that there was no coordination of PG&E’s gas transmission pipeline records across the company.

Finally, as discussed in Section 5.5 above, we find that CPSD is not barred from raising this assertion under the doctrine of laches. CPSD was unaware that PG&E’s corporate recordkeeping policies meant that there was no actual coordination of recordkeeping policies across the various business units and locations until after the San Bruno explosion. Once it was made aware of this fact, CPSD raised its allegations in a timely manner.

9.2.3. Quality of Records Management

CPSD concludes that PG&E’s lack of management oversight resulted in records and data that were substandard in quality.⁷¹⁵ In particular, CPSD notes that key records were not easily identifiable and accessible to employees and staff was not educated about records management. It also notes that the PwC report had stated that PG&E’s paper and electronic records contained gaps and

⁷¹³ PG&E’s June 20, 2011 Response at 2A-8.

⁷¹⁴ PG&E’s June 20, 2011 Response at 2A-9.

⁷¹⁵ CPSD Opening Brief at 165.

errors.⁷¹⁶ CPSD believes that PG&E's substandard records management resulted in inconsistent recordkeeping, which prevented easy and efficient access to key records necessary to operate and maintain the gas transmission system.⁷¹⁷

We agree with CPSD that PG&E's records contained missing, inaccurate, incomplete or duplicative records and data. Since these shortcomings may be measured objectively with respect to compliance with regulatory requirements, there is a likelihood that the actual quality of the records that are available are substandard. Consequently, we agree with CPSD that PG&E's failure to establish consistent company-wide practices to maintain and retain mandatory records for the safe operation of its gas transmission pipeline system can be attributed to poor management oversight.

CPSD has argued that the shortfalls in PG&E's records management activities are violations of 49 CFR 192.709; Pub. Util. Code § 451; Section 107 of GO 112, 112A and 112B; and ASME B.31.8.⁷¹⁸ As we have discussed elsewhere in this decision, failure to maintain strength test and pressure test records, leak records and weld records, as well as other records mandated by statute or regulations, is a violation of 49 CFR 192.709; Section 107 of GO 112, 112A and 112B; and ASME B.31.8. PG&E management's failure to provide proper oversight over its records management activities has resulted in the company's failure to retain records needed to operate and maintain PG&E's gas transmission pipeline system in a safe manner, as required by Pub. Util. Code § 451. Based on our discussion above, we find that the shortcomings in PG&E's

⁷¹⁶ CPSD Opening Brief at 191.

⁷¹⁷ CPSD Opening Brief at 193.

⁷¹⁸ CPSD Opening Brief at 165.

records management activities violate 49 CFR 192.709; Pub. Util. Code § 451; Section 107 of GO 112, 112A and 112B; and ASME B.31.8.

PG&E has argued that the violations raised in this section are the same as Violations 16 - 27 raised by CPSD witness Felts. Even if this violation overlaps or is similar to other violations raised by CPSD, it should be considered on its own. PG&E's lack of management oversight did not simply result in incomplete, missing or incorrect records and data. It also prevented PG&E line employees from properly maintaining and retaining the records and data, may have contributed to erroneous decisions regarding pipeline replacement, or incorrect risk assessments. As previously discussed, this will go, at a minimum, towards assessing the severity of violations at the time we consider fines and remedies.

We agree with CPSD that the beginning date of Violation A should be set at 1955. As CPSD explains, this date was a conservative estimate and based on the date the ASME B.31.8 standard was enacted.⁷¹⁹ Consistent with our discussion regarding the end date for Felts Violation 16 in Section 8.1 above, we (find that the end date of this violation should be set as December 20, 2012, the effective date of the *PSEP Decision*.

9.3. Records Retention (Violation B)

In Violation B, CPSD contends that some of PG&E's retention requirements did not comply with the law.⁷²⁰ CPSD further maintains that PG&E has failed to comply with its own internal records retention requirements.⁷²¹

⁷¹⁹ 4 RT at 638:19-25 (CPSD/Duller).

⁷²⁰ CPSD Opening Brief at 194.

⁷²¹ CPSD Opening Brief at 200.

**9.3.1. Failure to Comply With Mandatory
Records Retention Requirements
(Violations B.1 – B.5)**

9.3.1.1. CPSD Allegations

CPSD contends that PG&E has failed to comply with mandatory records retention requirements with respect to the following documents:

- Leak Survey Maps (Violation B.1) – PG&E Standard Practice USP-4 requires Leak Survey Maps to be retained for nine years.⁷²² However, CPSD states that ASME B.31.8 § 851.6 requires these maps be retained for the life of the facility.⁷²³ CPSD further notes that the CFR has required operators to keep leak survey records for either 5 years or until the next leak survey record is made, whichever is longer.⁷²⁴ CPSD argues that PG&E's minimum retention period of 9 years would not ensure that an existing leak survey map would be replaced with a new one. CPSD asserts that the duration of this violation is from April 16, 2010 to September 9, 2010.⁷²⁵
- Line Patrol Reports (Violation B.2) – In 1964, PG&E's retention period for line patrol reports was 1 year in the office and three years total.⁷²⁶ PG&E's retention periods in 1994, 2005 and 2008 were for the life of the facility for all numbered transmission lines and 3 years for all others.⁷²⁷ However, CPSD states that ASME B.31.8 § 851.5 required

⁷²² Exh. CPSD-18 USP4: Records Retention and Disposal Guidance for Transmission and Distribution Systems (P2-230.pdf) at 1.

⁷²³ Exh. CPSD-6 at 6-34:23-24.

⁷²⁴ Exh. CPSD-6 at 6-34; see also 49 CFR 192.709.

⁷²⁵ CPSD Opening Brief at 198.

⁷²⁶ Retention Schedule for Records in the Division (P2-195.pdf) at 12.

⁷²⁷ Guide to Retention of Company Documents (P2-212.pdf) at 41; PG&E Guide to Record Retention, issued May 8, 2006, (P2-225.pdf) at 43; USP4: Records Retention and Disposal Guidance for Transmission and Distribution Systems (P2-230.pdf) at 14.

line patrol reports be retained for the life of the facility.⁷²⁸ Additionally, CPSD notes that 49 CFR 192.709 required line patrol reports be retained for the life of the facility. CPSD asserts that the duration of this violation is from September 1, 1964 to September 9, 2010.⁷²⁹

- Line Inspection Reports (Violation B.3) – Since 1964, PG&E's retention period for line inspection reports was three years.⁷³⁰ However, CPSD states that ASME B.31.8 required that these reports be retained for the life of the facility.⁷³¹ It further notes that by June 6, 1996, the CFR required inspection records be retained for five years, or until the next line inspection report or records were made, whichever was greater. CPSD asserts that the duration of this violation is from April 6, 1994 to September 9, 2010.⁷³²
- Pressure Test Records (Violation B.4) – PG&E's retention period for pressure test records was six years in 1964.⁷³³ The retention period was subsequently reduced to three years in 1994.⁷³⁴ CPSD notes that since 1955, ASME B.31.8 required pressure test records be retained for the life of the facility. Additionally, CPSD notes that since August 19, 1970, 49 CFR 192.517 required pipeline operators to retain for the life of the facility records showing the operator's name, name of employee making the test, test medium

⁷²⁸ Exh. CPSD-6 at 6-35.

⁷²⁹ CPSD Opening Brief at 199.

⁷³⁰ Retention Schedule for Records in the Division (P2-195.pdf) at 12; Guide to Retention of Company Documents (P2-212.pdf) at 41; PG&E Guide to Record Retention, issued May 8, 2006, (P2-225.pdf) at 43; USP4: Records Retention and Disposal Guidance for Transmission and Distribution Systems (P2-230.pdf) at 14.

⁷³¹ Exh. CPSD-6 at 6-35.

⁷³² CPSD Opening Brief at 199.

⁷³³ Retention Schedule for Records in the Division (P2-195.pdf), revised September 1, 1964, at 9.

⁷³⁴ Guide to Retention of Company Documents (P2-212.pdf) at 40; PG&E Guide to Record Retention, issued May 8, 2006, (P2-225.pdf) at 42.

used, test pressure, test duration, pressure recording charts or other record of pressure readings, leaks and failures noted and their disposition for all pipelines operating at hoop stresses of 30% or more of SMYS. CPSD asserts that the duration of this violation is from April 6, 1994 to September 9, 2010.⁷³⁵

- Transmission Line Inspections (Violation B.5) – Transmission line inspection reports include patrol maintenance reports, trouble reports, and line logs. PG&E’s retention period for these records is six years. However, CPSD contends that since 1955, ASME B.31.8 required these records be retained for the life of the facility.⁷³⁶ It further notes that the C.F.R. also required that these types of records be retained for the life of the facility. CPSD asserts that the duration of this violation is from September 1, 1964 to September 9, 2010.⁷³⁷

9.3.1.2. PG&E’s Response

PG&E raises four general arguments in response to CPSD’s allegations. It first argues that CPSD witnesses Duller/North focused on corporate retention schedules, not the retention schedules in the Gas Transmission Standards (Gas Standards).⁷³⁸ PG&E states that the Gas Standards are used by the gas organization on a daily basis and that the retention schedules in the Gas Transmission Standards are consistent with ASME B.31.8 and 49 CFR 192.⁷³⁹

⁷³⁵ CPSD Opening Brief at 199.

⁷³⁶ Exh. CPSD-6 at 6-36.

⁷³⁷ CPSD Opening Brief at 200.

⁷³⁸ PG&E Opening Brief at 143. PG&E states the Gas Standards may be found in documents P2-1149 – P2-1244. (Exh. PG&E-61 at 2-24.)

⁷³⁹ PG&E Opening Brief at 143-144; PG&E Reply Brief at 142. For example, PG&E notes that the Gas Standards required that “Leak Survey Inspections” and/or “Leak Survey Logs”, and line patrol reports be retained for the life of the facility. (PG&E Opening Brief at 147 & 149.)

PG&E further states that it had informed CPSD that gas operations followed the gas records retention schedules in the Gas Standards and that PG&E witness Phillips submitted testimony regarding the Gas Standards.⁷⁴⁰ Additionally, PG&E cites to testimony from PG&E witness Dunn, who evaluated PG&E's corporate and operational records retention policies and standards.⁷⁴¹ PG&E asserts that since CPSD failed to consider the Gas Standards, Violations B.1 through B.5 are unfounded.

PG&E next contends that CPSD failed to consider the overlapping and inconsistent records retention requirements between the FPC (later FERC) requirements⁷⁴² and requirements set forth in GO-112, ASME B.31.8 and 49 CFR 192.⁷⁴³ It states that it identified these inconsistencies to the Commission and "helped the Commission address them through the adoption of FA-570 in 1976."⁷⁴⁴ Consequently, PG&E argues that the need to reconcile these inconsistencies should not be considered records retention violations.⁷⁴⁵

PG&E's third argument is that CPSD's violations reflect hindsight judgments and do not reflect the "day-to-day realities of operating or regulating a gas utility."⁷⁴⁶ In particular, PG&E notes that CPSD has audited PG&E's gas

⁷⁴⁰ PG&E Opening Brief at 144; PG&E Reply Brief at 142.

⁷⁴¹ PG&E Opening Brief at 144.

⁷⁴² These requirements are found in 18 CFR 225.

⁷⁴³ PG&E Opening Brief at 144-145.

⁷⁴⁴ PG&E Opening Brief at 144.

⁷⁴⁵ PG&E Opening Brief at 145.

⁷⁴⁶ PG&E Opening Brief at 145

records over the past 50 years and is only now asserting records retention schedule errors that occurred in 1964.⁷⁴⁷

PG&E's final general argument is that Violations B.1 through B.6 "lack internal logic and legal sense."⁷⁴⁸ For example, PG&E states that CPSD policy witness Halligan had testified that CPSD would not seek enforcement of ASME B.31.8 after GO 112-C came into effect in 1971. However, CPSD alleged ASME B.31.8 violations in Violations B.2, B.3, B.4 and B.5 that began after 1971. Consequently, PG&E contends that these violations are inconsistent with CPSD policy witness Halligan's testimony.⁷⁴⁹

In addition to these general arguments in response to CPSD's alleged violations, PG&E asserts that the nine-year retention period for Leak Survey Maps (Violation B.1) complies with the requirement in 49 CFR 192.709(c) since PG&E's interval for conducting leak surveys were at least once each calendar year.⁷⁵⁰ Consequently, "an existing leak survey map will be replaced with a new one multiple times within the nine-year retention period."⁷⁵¹

PG&E further argues that although CPSD had found that PG&E's retention period for line inspection reports complied with federal regulations, it nonetheless concluded that PG&E violated Pub. Util. Code § 451 and ASME B.31.8 between 1994 through September 2010.⁷⁵² PG&E states that Violation B.3 is

⁷⁴⁷ PG&E Opening Brief at 145.

⁷⁴⁸ PG&E Opening Brief at 145.

⁷⁴⁹ PG&E Opening Brief at 146.

⁷⁵⁰ PG&E Opening Brief at 147.

⁷⁵¹ PG&E Opening Brief at 147.

⁷⁵² PG&E Opening Brief at 149.

based on CPSD's erroneous conclusion that both Pub. Util. Code § 451 and ASME B.31.8 required line inspection reports to be retained for the life of the facility. PG&E argues that there is no violation because the 49 CFR 192.709(c) had eliminated the "life of the facility" requirement in 1996.⁷⁵³ Further, PG&E contends that CPSD cannot assert a violation of ASME B.31.8 violation for any period after 1971, as CPSD policy witness Halligan had testified that CPSD did not seek enforcement of ASME B.31.8 after GO 112-C came into effect.

PG&E also contends that CPSD improperly concludes that the term "Gas High Pressure Test Record" in the corporate records retention schedule refers to the pressure test records specified in 49 CFR 192.517.⁷⁵⁴ PG&E states that the "Gas High Pressure Test Record" retention schedule is based on FPC (later FERC) regulations, not 49 CFR 192.517. It further argues that 49 CFR 192.517 does not refer to pressure test records as "Gas High Pressure Test Records." As such, PG&E asserts that "Gas High Pressure Test Record" concerns a different type of record and there is no violation.

9.3.1.3. Discussion

The evidence in this proceeding identifies a multitude of retention schedules which are applicable to different functional areas and operating divisions. In some instances, different operating groups will establish different retention periods for the same document. Although it is true that the Gas Standards specified records retention periods that complied with 49 CFR 192, the record does not support PG&E's assertions that the Gas Standards set the retention periods of gas transmission pipeline records.

⁷⁵³ PG&E Opening Brief at 150.

⁷⁵⁴ PG&E Opening Brief at 151.

The directive contained in paragraph 2 of the OII had requested PG&E to explain and identify its policy and practices between 1955 and August 2010 for maintaining, among other things, “records of operations, including but not limited to gas pressure,” “records of leaks, electronic problems, and other transmission pipeline anomalies noted by PG&E,” and “records of all inspections, tests, and safety risk analyses done on transmission pipes.”⁷⁵⁵ Further, PG&E was directed to provide “all written PG&E manuals or written documents in use during this period which state such policies and practices.”⁷⁵⁶

In its response to this directive, PG&E provided copies of its records retention policy for various categories of documents and stated “As of August 2010, PG&E’s overarching or umbrella retention policy was Utility Standard Policy (USP) 4, “Record Retention and Disposal.”⁷⁵⁷ It further added:

Underlying USP 4 are other documents, including the Utility’s “Guide to Record Retention” (Guide) (P2-2), which contains more detailed record retention information broken down by operational area. Additionally, PG&E’s “Records Retention and Disposal Guidance for Transmission & Distribution Systems” (T&D Guidance) (P2-3) was issued by Engineering and Operations and by Energy Delivery pursuant to USP 4. Finally, retention period guidance is also found within other PG&E gas transmission documents. These documents are being produced as P2-5 to P2-190 along with an accompanying index.⁷⁵⁸

⁷⁵⁵ OII at 17-18 (slip op.).

⁷⁵⁶ OII at 18 (slip op.).

⁷⁵⁷ PG&E’s June 20, 2011 Response at 2-1.

⁷⁵⁸ PG&E’s June 20, 2011 Response at 2-1.

On September 30, 2011, PG&E responded to CPSD Data Request 4, questions 2 and 12. These two questions asked for PG&E's retention practices and policies regarding leak records and whether PG&E had any retention policies that exceeded federal or state requirements. PG&E responded that it had reviewed the "[r]ecord retention legal requirements with PG&E's policies and procedures as of September 9, 2010" and identified various P2 documents between P2-30 and P2-142 that exceeded federal or state retention requirements.⁷⁵⁹ PG&E further identified A-Forms and SP 460.21-7, "Investigation and Reporting of Accidents and Material Failures Involving Gas Equipment."⁷⁶⁰

On November 10, 2011, PG&E responded to CPSD Data Request 23, question 26 which asked: "Does PG&E have any individual record retention guidelines or retention schedules *beyond those identified in the corporate record retention policy*? If so, please provide copies of all current and historical versions of them."⁷⁶¹ PG&E identified pages 194-199 in Attachment 2A of its June 20, 2011 filing and pages 7 - 9 of the "Chapter 2 and 2A Index of Attachments."⁷⁶² PG&E also attached nine documents of other documents. The documents referenced in PG&E's response consist of:

⁷⁵⁹ Exh. CPSD-18 (Disc 14) PG&E Response to CPSD Data Request 4, Q2, Attachment 1 (GasTransmissionSystemRecordsOII_DR_CPUC_004-Q02-atch1.pdf).

⁷⁶⁰ Exh. CPSD-18 (Disc 14) PG&E Response to CPSD Data Request 4, Q12 at 2 (GasTransmissionSystemRecordsOII_DR_CPUC_004-Q12.pdf). The earliest copy of an A-Form is P2-1152.pdf; SP 460.21-7 is P2-508.pdf.

⁷⁶¹ Exh. CPSD-42 (emphasis added); see, also Exh. CPSD-18 (Disc 23) PG&E's Response to CPSD Data Request 23, Q 26 at 1 (GasTransmissionSystemRecordsOII_DR_CPUC_023-Q26.pdf).

⁷⁶² Exh. CPSD-42; see also Exh. CPSD-18 (Disc 23) PG&E's Response to CPSD Data Request 23, Q26 at 1 (GasTransmissionSystemRecordsOII_DR_CPUC_023-Q26.pdf).

- Documents P2-191 – P2-233 (documents listed on pages 194-199 in Attachment 2A of its June 20, 2011 filing);
- Documents P2-157 – 220 (documents listed on pages 7 - 9 of the “Chapter 2 and 2A Index of Attachments”);
- Guide to Record Retention, Gas Supply (dated 10/28/11), with retention justification based on FERC regulations (GasTransmissionSystemRecordsOII DR CPUC_023-Q26Atch01.pdf);
- USP 4, dated 10/1/10 (GasTransmissionSystemRecordsOII DR CPUC_023-Q26Atch02.pdf);
- USP 4, dated 11/11/10 (GasTransmissionSystemRecordsOII DR CPUC_023-Q26Atch03.pdf);
- USP 4, dated 12/23/10 (GasTransmissionSystemRecordsOII DR CPUC_023-Q26Atch04.pdf);
- GOV 7001S – Record Retention and Disposal Standard, dated 2/16/11 (GasTransmissionSystemRecordsOII DR CPUC_023-Q26Atch05.pdf);
- SP 210.4-3 – Retaining and Destroying Records – General Office Departments, dated 10/1/88 (GasTransmissionSystemRecordsOII DR CPUC_023-Q26Atch06.pdf);
- SP 210.4-4 – Retaining and Destroying Records – Operating Regions, dated 10/1/88 (GasTransmissionSystemRecordsOII DR CPUC_023-Q26Atch07.pdf);
- Guide to Regional Record Retention, dated 12/17/91 (GasTransmissionSystemRecordsOII DR CPUC_023-Q26Atch08.pdf);
- Guide to Record Retention (IT), dated 2010; and (GasTransmissionSystemRecordsOII DR CPUC_023-Q26Atch09.pdf).

On December 15, 2011, PG&E responded to CPSD Data Request 18, question 15 seeking information about the documentation of daily activities at the construction site during a transmission line construction project and the retention period for these documents. PG&E's response referred to its response to CPSD Data Request 17, questions 1 and 2.⁷⁶³ In those referenced responses, PG&E provided a copy of "CGT Construction As-Built and Appropriate Reports Checklist,"⁷⁶⁴ which does not specify any retention requirements, and stated that there was no requirement to retain field engineer notes.⁷⁶⁵

On January 3, 2012, PG&E responded to CPSD Data Request 25, questions 2 and 8. CPSD Data Request 25, question 2 asked, among other things,

Provide copies of all past and present document management, document control and records management standards, policies, procedures, manuals, directives, instructions, standard practices and retention schedules used by PG&E since 1948, *that relate to any aspect* of the management of either physical or electronic records.⁷⁶⁶

PG&E's response to question 2 referred to pages 194-199 in Attachment 2A of its June 20, 2011 filing and pages 7 - 9 of the "Chapter 2 and 2A Index of

⁷⁶³ Exh. CPSD-18 (Disc 18) PG&E Response to CPSD Data Request 18, Q15 at 1 (GasTransmissionSystemRecordsOII_DR_CPUC_018-Q15.pdf).

⁷⁶⁴ Exh. CPSD-18 (Disc 17) PG&E Response to CPSD Data Request 17, Q1, Attachment 1 (GasTransmissionSystemRecordsOII_DR_CPUC_017-Q01Atch01.pdf). This document appears to be an updated version of P2-580.pdf, "CGT Construction As-Built and Pressure Report Checklist."

⁷⁶⁵ Exh. CPSD-18 (Disc 17) PG&E Response to CPSD Data Request 17, Q2(GasTransmissionSystemRecordsOII_DR_CPUC_017-Q02.)

⁷⁶⁶ Exh. CPSD-18 (Disc 23) PG&E Response to CPSD Data Request 25, Q2(g) at 2 (emphasis added) (GasTransmissionSystemRecordsOII_DR_CPUC_025-Q02-Part1_REDACTED.pdf).

Attachments.”⁷⁶⁷ CPSD Data Request 25, question 8(b) asked PG&E to “State how PG&E’s document retention policies and practices have evolved over the period 1948-2011. Indicate the level of compliance to these policies over this time.” In response, PG&E referred to Chapter 2A of *PG&E’s June 20, 2011 Response*, which discussed USP 4 and GOV7001S.⁷⁶⁸ PG&E subsequently submitted a supplemental response to question 8(b) on June 11, 2012, in which it produced “documents concerning CPUC resolutions that have impacted the company’s document retention policies and practices.”⁷⁶⁹ These resolutions included Resolution FA-570.

As PG&E noted, its Gas Standards were contained in the document range of P2-1149 – P2-1244. However, despite PG&E’s assertions that the Gas Standards governed the day-to-day operations of Gas Operations, PG&E does not directly refer to these documents in its June 20, 2011 response or any data responses, even when asked about record retention guidelines or retention schedules beyond those identified in its corporate record retention policy. Rather, PG&E only refers to documents that its own records expert states “offer only limited insight” into PG&E’s records management program.⁷⁷⁰ We agree with CPSD that PG&E’s filings and data request responses would lead to the

⁷⁶⁷ Exh. CPSD-18 (Disc 23) PG&E Response to CPSD Data Request 25, Q2(g) at 5 (GasTransmissionSystemRecordsOII_DR_CPUC_02S-Q02-Part1_REDACTED.pdf).

⁷⁶⁸ Exh. CPSD-18 (Disc 23) PG&E Response to CPSD Data Request 25, Q8(b) (GasTransmissionSystemRecordsOII_DR_CPUC_02S-Q08_REDACTED_01.pdf at 2-3; GasTransmissionSystemRecordsOII_DR_CPUC_02S-Q08_REDACTED_02.pdf at 2-3).

⁷⁶⁹ Exh. CPSD-18 (Disc 23) PG&E Response to CPSD Data Request 25, Q8(b), First Supplemental Response (GasTransmissionSystemRecordsOII_DR_CPUC_02S-Q08(b)Supp1_REDACTED.pdf).

⁷⁷⁰ Exh. PG&E-62 at MD-12 (PG&E/Dunn).

conclusion that PG&E was either confused about its own retention schedules⁷⁷¹ or deliberately did not provide complete responses to CPSD's data requests. If the former, then the testimony of PG&E's witnesses is outweighed by contradictory evidence. If the latter, then PG&E's actions could be construed as an attempt to mislead the Commission in violation of Rule 1.1.

We are also not persuaded that any shortcomings in PG&E's records retention requirements is the result of overlapping and inconsistent records retention requirements between the requirements contained in 18 CFR 225 and the requirements contained in GO-112, ASME B.31.8 and 49 CFR 192. Contrary to PG&E's belief, the FERC does not have safety oversight over gas transmission pipelines. Indeed, the FERC regulations regarding recordkeeping requirements for gas utilities specifically state:

The regulations in this part should not be construed as excusing compliance with other lawful requirements of any other governmental body, Federal or State, prescribing other record keeping requirements, or for preservation of records for periods longer than those prescribed in this part.⁷⁷²

PG&E witness Phillips also acknowledges that Resolution FA 570 did not relieve PG&E of its records responsibilities under 49 CFR 192.⁷⁷³ He further agreed that Resolution FA 570 was issued by the Commission's Finance and Accounting Division, which had no safety oversight over gas pipeline safety.

⁷⁷¹ CPSD Reply Brief at 115.

⁷⁷² Exh. PG&E-69, Attachment D, Regulations to Govern the Preservation of Records of Public Utilities and Licensees and Natural Gas Companies (FERC Order 450), effective January 1, 1972 at 70 (18 CFR 225.2, subdiv. (a)(2)).

⁷⁷³ 7 RT 1099:23 – 1100:4 (PG&E/Phillips).

Thus, there was no need to reconcile any overlapping or inconsistent record retention requirements, and the longer retention periods contained in GO 112, ASME B.31.8 and 49 CFR 192 to ensure the safe operations of PG&E's gas transmission lines would have remained in effect. Moreover, notwithstanding the alleged inconsistencies and overlap, USP4 and other "corporate retention schedules" relied primarily on the FERC regulations, while the Gas Standards retention periods referred to 49 CFR 192. Thus, PG&E also recognized that these different retention periods had different purposes and were to be applied to different parts of its organization.

We further disagree with PG&E's assertions that CPSD could not assert recordkeeping violations under Pub. Util. Code § 451 and ASME B.31.8 if PG&E were in compliance with 49 CFR 192. PG&E fails to acknowledge that 49 CFR 192 represents the minimum requirements, and that the states could impose stricter requirements. Thus, compliance with the federal regulations does not necessarily mean that a utility has not violated state statutes or regulations.

Decision 78513, which adopted GO 112-C, states:

This Commission by Resolution No. G-1499, ordered that said Part 192 be adopted to supplement General Orders Nos. 112-B and 94-A of the Commission, and that all standards in said general orders, to the extent they are additional or more stringent than the Minimum Federal Safety Standards, shall remain in effect.⁷⁷⁴

Similarly, Decision 95-08-053, which adopted GO 112-E, states:

The Commission continues to retain the ability to develop its own specific requirements. In no instance does a separate California requirement reduce the federal standard.

⁷⁷⁴ Exh. PG&E-5 (Decision No. 78513) at 3.

California standards must be either the same as or more stringent than the federal standards. Generally, where separate California standards were previously adopted, they remain, except in certain instances where they were found not to be necessary, such as reporting level requirements for incidents.⁷⁷⁵

The ASME B.31.8 standards, which included a “life of the facility” retention period for various records, were adopted by the Commission in GO 112. In Decision 78513 and Decision 95-08-053, the Commission notes that 49 CFR 192 was to supplement, not replace, existing regulations. Additionally, unless expressly stated, the more stringent California standards would remain. There is no express statement that the “life of facility” retention period adopted in GO 112 is no longer in effect. As such, the ASME B.31.8 standards are still applicable.

Finally, we agree that the start dates stated by CPSD for violations B.1 through B.5 should be adopted. Contrary to PG&E’s assertions, we do not find that any of these dates are inconsistent with the testimony of CPSD witness Halligan. As CPSD notes Ms. Halligan had stated that CPSD would not assert any new violation of ASME B.31.8 after GO 112-C took effect in 1971 to avoid counting a single violation multiple times.⁷⁷⁶ Thus, there is no inconsistency.

For the reasons discussed above, we find the following violations:

- Leak Survey Maps (Violation B.1) – PG&E failed to retain records of Leak Survey Maps as long as the line remains in service as required by ASME B.31.8 § 851.5. This violation began on April 16, 2010, the effective date of the update of USP4 (P2-230.pdf).

⁷⁷⁵ Exh. PG&E-7 (Decision 95-08-053) at 9.

⁷⁷⁶ CPSD Reply Brief at 120-121.

- Line Patrol Reports (Violation B.2) – PG&E failed to retain records of Line Patrol Reports as long as the line remains in service as required by ASME B.31.8 § 851.5. This violation began on September 1, 1964, the effective date of Retention Schedule for Records in the Division (P2-195.pdf).
- Line Inspection Reports (Violation B.3) – PG&E failed to retain Line Inspection Reports as long as the line remains in service as required by ASME B.31.8 § 851.5. This violation began on December 17, 1991, the date of Guide to Regional Record Retention (GasTransmissionSystemRecordsOII DR CPUC_023-Q26Atch08.pdf).
- Pressure Test Records (Violation B.4) – PG&E failed to retain pressure test records for the useful life of the pipeline as required by ASME B.31.8 § 841.417. This violation began on September 1, 1964, the effective date of Retention Schedule for Records in the Division (P2-195.pdf).
- Transmission Line Inspections (Violation B.5) – PG&E failed to retain line inspection reports as long as the line remains in service as required by ASME B.31.8 § 851.5. This violation began on September 1, 1964, the effective date of Retention Schedule for Records in the Division (P2-195.pdf).

We further agree with CPSD that failure to comply with mandatory records retention requirements is a continuing violation. However, we do not agree that Violations B.1 through B.5 ended on September 9, 2010, the date of the San Bruno explosion and fire. Rather, consistent with our discussion regarding the end date for Felts Violation 16 in Section 8.1 above, we find that Violations B.1 through B.5 continued until December 20, 2012, the effective date of the *PSEP Decision*.

9.3.2. Failure to Comply With Internal Records Retention Requirements (Violation B.6)

In addition to establishing retention schedules with shorter retention periods than mandated under ASME B.31.8 and 49 C.F.R., CPSD contends that PG&E failed to follow its own record retention requirements from 1955 to 2010.⁷⁷⁷ For example, and by reference to Violation A.1, CPSD notes that Standard Practice 463.7 required PG&E to retain Pipeline History Files for the life of the facility. Additionally, CPSD states that PG&E's retention requirements required PG&E to retain strength test records for the life of the facility.⁷⁷⁸ CPSD further identifies various findings in the PwC Report it believes would lead to the conclusion that PG&E employees were not properly trained on records retention requirements and, thus, failed to comply with PG&E's internal retention requirements.⁷⁷⁹ Finally, CPSD argues that PG&E's own admissions in this proceeding support a reasonable inference that it did not follow its own retention requirements.⁷⁸⁰

CPSD asserts that PG&E has violated 49 CFR 192.13(c) for failing to comply with its own internal retention requirements. CPSD maintains that this violation began in 1955 and continued until 2010.⁷⁸¹

PG&E refutes CPSD's allegations by reiterating that Standard Practice 463.7 had required the retention of Pipeline History Files.⁷⁸² PG&E asserts that

⁷⁷⁷ CPSD Opening Brief at 200.

⁷⁷⁸ CPSD Opening Brief at 201.

⁷⁷⁹ CPSD Opening Brief at 202-204.

⁷⁸⁰ CPSD Opening Brief at 204-205.

⁷⁸¹ CPSD Opening Brief at 202 & 208.

⁷⁸² PG&E Opening Brief at 153.

once this standard practice had been rescinded, there was no law mandating that Pipeline History Files be retained.⁷⁸³

PG&E further believes that CPSD's arguments about pressure records had already been presented in Felts Violations 3 and 18 and Duller/North Violation A.1. PG&E states that its response to this portion of Violation B.6 is the same as for the prior alleged violations. PG&E states that because CPSD has failed to prove that PG&E had failed to retain pressure records, CPSD cannot prove that PG&E failed to comply with its internal retention policy.⁷⁸⁴

Finally, PG&E asserts that CPSD's reliance on the PwC Report to support an alleged violation of 49 CFR 192.13 is misplaced.⁷⁸⁵ PG&E contends the PwC Report "was created to provide high-level findings, and does not provide a sufficient basis to support a violation."⁷⁸⁶ More importantly, PG&E maintains that its Gas Operations organization followed the Gas Standards in accordance with federal standards.

As noted by PG&E, we have already considered many of the facts underlying Violation B.6. Based on our discussion in Section 8.2 above, we find that PG&E has not violated its internal policies with respect to the retention of Pipeline History Files. However, consistent with Sections 7.2, 8.3 and 8.5, we find that PG&E has violated its internal policies with respect to the retention of pressure test records. As we discussed in those previous sections, PG&E was to retain pressure test records for the life of the facility but failed to do so. PG&E's

⁷⁸³ PG&E Opening Brief at 154; PG&E Reply Brief at 149.

⁷⁸⁴ PG&E Reply Brief at 150.

⁷⁸⁵ *Id.*

⁷⁸⁶ *Id.*

internal retention policies also mandate a life-of-the-facility retention period. Since PG&E has failed to meet the life-of-the-facility retention period mandated by federal and state regulations, it has also failed to comply with its internal retention policies. This failure constitutes a violation of 49 CFR 192.13(c).

We further agree with CPSD that the findings in the final PwC report suggest that employees may not be complying with the standard practices. For example, the PwC Report recommends that PG&E “Perform Gas Operations Compliance review on RIM Program components, such as Corporate Records Management Policy, Retention Schedules and other related RIM procedures.”⁷⁸⁷ This recommendation was predicated upon a finding that there was “no clearly defined, comprehensive process to map regulatory recordkeeping requirements to business processes, record types and procedures.”⁷⁸⁸ As we discuss in Section 9.3.1 above, a single type of document (e.g., leak surveys) may be subject to different retention periods depending upon the entity issuing the standard (e.g., corporate vs. gas operations). Based on the confusion presented by these various retention requirements, it is reasonable to infer that employees may not be following the proper retention policies, in violation of 49 CFR 192.13(c).

We are not persuaded by PG&E’s arguments that the PwC Report does not provide sufficient basis to support CPSD’s assertions since it was intended to present high-level findings of “the current state of records and information

⁷⁸⁷ Exh. TURN-16, Appendix B, *Gas Operations Records and Information Management Assessment*, at 64-65.

⁷⁸⁸ Exh. TURN-16, *Gas Operations Records and Information Management Assessment*, Appendix B at 64-65.

management in the Gas Operations organization.”⁷⁸⁹ As noted by TURN witness Long, the various problems identified by CPSD witnesses Duller/North “are quite similar to the problems that the PwC Report finds still plague PG&E.”⁷⁹⁰ Thus, TURN concludes “the PwC Report both corroborates the findings and analysis of the Duller and North Report and underscores the depth and persistence of the problems in PG&E’s record-keeping for its gas operations.”⁷⁹¹

Based on the above, we agree with CPSD that the start date for this violation is 1955. We further agree with CPSD that this is a continuing violation, since every day that an employee does not comply with the internal records retention requirements would result in an additional day that records associated with ensuring the safe operation of PG&E’s gas transmission line are not available. Consistent with our discussion regarding the end date for Felts Violation 16 in Section 8.1 above, we find that this violation continued until December 20, 2012, the effective date of the *PSEP Decision*.

9.4. Other Safety/Pipeline Integrity Violations (Violation C)

9.4.1. Violation C.1: Wrong Year Used as Upper Limit in Gas Pipeline Replacement Program

In 1985, PG&E launched the Gas Pipeline Replacement Program (GPRP).⁷⁹² The objectives of the GPRP were to assess transmission pipe with non-standard welds and/or non-standard joints as candidates for replacement.⁷⁹³

⁷⁸⁹ PG&E Reply Brief at 150.

⁷⁹⁰ Exh. TURN-16 at 6:2-3 (TURN/Long).

⁷⁹¹ Exh. TURN-16 at 6:6-9 (TURN/Long).

⁷⁹² Exh. PG&E-61 at 3-52:5 (PG&E/Roth).

In advance of launching the GPRP, PG&E hired Bechtel Petroleum, Inc. (Bechtel) to conduct a risk analysis to develop a methodology and database to prioritize replacement of transmission line segments and distribution mains. Bechtel submitted its preliminary risk assessment in January 1984.⁷⁹⁴ In evaluating the likelihood of a pipeline segment to fail, Bechtel considered 8 variables – age, leak history, girth and weld type, test type, coating type, longitudinal joint efficiency, butt joint type and future performance.⁷⁹⁵ With respect to the variables related to the quality of the manufactured pipe, longitudinal joint efficiency and butt joint type, the *Bechtel 1984 Report* stated that pipes with unusual longitudinal seams (SPIRAL, A.O. Smith) or joints (such as bell-bell chill ring (BBCR) and bell-spigot (BLSP) joint types) had a greater potential to fail and, thus, were given a higher priority for replacement.⁷⁹⁶ The *Bechtel 1984 Report* further noted that these types of manufacturing techniques only appeared in the “prior to 1950 lines.”⁷⁹⁷

In a June 1988 update of its risk analysis report, Bechtel revised this determination to state that these types of manufacturing techniques only appeared in “lines installed prior to 1947.”⁷⁹⁸ This update also revised the risk

⁷⁹³ Exh. PG&E-35, *Gas Pipeline Replacement & Rehabilitation Program (Bechtel 1995 Report)*, prepared by Bechtel Corporation, dated May 1995, at 2-1.

⁷⁹⁴ See Exh. CPSD-55, *Pipeline Replacement Program Transmission Line Risk Analysis, Revision 0 (Bechtel 1984 Report)*, prepared by Bechtel Corporation, dated January 1984.

⁷⁹⁵ Exh. CPSD-55 at 5 – 12.

⁷⁹⁶ Exh. CPSD-55 at 11.

⁷⁹⁷ Exh. CPSD-55 at 11.

⁷⁹⁸ Exh. CPSD-18 (Disc 14) PG&E Response to CPSD Data Request 5, Q11, Attachment 4 at 9(GasTransmissionSystemRecordsOII_DR_LegalDivision_005-Q11Atch04.pdf). This risk assessment is referred to as the *Bechtel 1988 Report*.

value assigned to the variables, as well as the risk weighting.⁷⁹⁹ In 1994, Bechtel was asked to review further revisions to the GPRP. Bechtel's report of its review was issued in May 1995.

In Violation C.1, CPSD contends that PG&E did not access its Job Files to identify the types of joints contained on Lines 132 and 151. As a result, the 1995 GPRP incorrectly set the cut-off year for replacement as lines installed prior to 1947 and, thus, excluded these two pipelines.⁸⁰⁰ In support of its assertions, CPSD cites a March 2007 memo (March 2007 Memo) which identified Lines 132 and 151 as having BBCR and BLSP joint types.⁸⁰¹

CPSD contends that because information in the Job Files was not readily accessible, PG&E failed to identify that Lines 132 and 151 had problematic joints.⁸⁰² Additionally, CPSD notes that since PG&E could not confirm that it had not used reconditioned pipe in the construction of Segment 180, there is no assurance that it did not contain BBCR or BLSP joints.⁸⁰³ CPSD further contends that even after PG&E had been informed of that Line 132 contained 15,000 feet of BBCR type joints and Line 151 had contained more than 68,000 feet of BLSP type joints, PG&E failed to properly re-consider whether to replace these lines.⁸⁰⁴

⁷⁹⁹ Compare CPSD-55 at 11-12 (risk value of 8 for BBCR and 18% weighting for pipe quality) and CPSD-18 (Disc 14) PG&E Response to CPSD Data Request 5, Q11, Attachment 4 at 10 (GasTransmissionSystemRecordsOII_DR_LegalDivision_005-Q11Atch04.pdf) (risk value of 0.53 for BBCR and 13% weighting for joint type variable).

⁸⁰⁰ CPSD Opening Brief at 209.

⁸⁰¹ Exh. CPSD-18 (Disc 26) PG&E Response to CPSD Data Request 44, Q1(a), Attachment 32 (GasTransmissionSystemRecordsOII_DR_CPUC_044-Q01 (a)Atch32_REDACTED.pdf).

⁸⁰² CPSD Opening Brief at 209.

⁸⁰³ CPSD Opening Brief at 210-211.

⁸⁰⁴ CPSD Opening Brief at 210-211.

CPSD believes that if Line 132 had been included in the GPRP and replaced, the San Bruno rupture and fire could have been avoided.⁸⁰⁵ Consequently, CPSD contends that PG&E violated Pub. Util. Code § 451 by excluding Lines 132 and 151 from the GPRP. CPSD contends that this violation began in 1995 and continued until September 9, 2010.

PG&E argues that CPSD's assertions are without merit. It first notes that Segment 180 of Line 132 had been constructed using the beveled-edge girth weld configuration. PG&E contends that because this type of weld was superior to BBCR and BLSP girth welds and less susceptible to ground movement-related failure, Segment 180 would not have fallen into the scope of the GPRP.⁸⁰⁶ PG&E further notes it had contemplated replacing portions of Line 132 that had suspect girth welds as part of the GPRP.⁸⁰⁷ Finally, PG&E notes that there is no evidence to support CPSD's assertions that Segment 180 had been constructed with salvaged pipe.⁸⁰⁸

We find that CPSD has presented sufficient evidence to conclude that the GPRP did not include all pipelines that may have used BBCR and/or BLSP girth welds. The *Bechtel 1988 Report* had revised the upper limit because Bechtel had determined BBCR and/or BLSP girth welds only appeared in "lines installed prior to 1947."⁸⁰⁹ However, the March 2007 Memo identified two jobs installed

⁸⁰⁵ CPSD Opening Brief at 213; CPSD Reply Brief at 130.

⁸⁰⁶ PG&E Opening Brief at 156.

⁸⁰⁷ PG&E Reply Brief at 152 (citing Exh. PG&E-65 at Tab 3-19).

⁸⁰⁸ PG&E Reply Brief at 152.

⁸⁰⁹ Exh. CPSD-18 (Disc 14) PG&E Response to CPSD Data Request 5, Q11, Attachment 4 at 9 (GasTransmissionSystemRecordsOII_DR_LegalDivision_005-Q11Atch04.pdf).

after 1947 that had BBCR and BLSP joints.⁸¹⁰ Job Estimate 98015 had installed “15691 feet of BBCR 24” OD pipe” on Line 132 and that Job Estimate 98174 had installed 68268 feet of BLSP 6.625: OD pipe” on Line 151.⁸¹¹ Job Estimate 98015 was in operation on December 6, 1948, with work completed on December 5, 1951. Job Estimate 98174 was in operation on December 12, 1947, with work completed on June 17, 1948. Based on the information provided, PG&E should have included both of these jobs under the GPRP. However, it failed to do so because the records were not considered at the time of the *Bechtel 1988 Report*. While PG&E did set the upper limit for GPRP as 1947, there were records suggesting that BBCR and BLSP joints had been installed after that date. By failing to even consider these jobs, which met the criteria to be considered for replacement under the GPRP, PG&E could not ensure that it was operating those portions of Lines 132 and 151 in a safe manner. This would constitute a violation of Pub. Util. Code § 451.

Because we have determined that PG&E’s Job Files were not complete and easily accessible,⁸¹² we agree with CPSD that PG&E may not have set the proper cutoff date for pipeline to be considered under the GPRP. As highlighted by the March 2007 Memo, by equating installation date with project completion date, PG&E does not appear to take into consideration projects that began prior to 1947 but completed years later. This recordkeeping methodology may also result

⁸¹⁰ According to the March 2007 Memo, PG&E considers the date the job is completed the “installation date.”

⁸¹¹ Exh. CPSD-18 (Disc 26) PG&E Response to CPSD Data Request 44, Q1(a), Attachment 32 (GasTransmissionSystemRecordsOII_DR_CPUC_044-Q01 (a)Atch32_REDACTED.pdf).

⁸¹² See Section 8.1 above.

in PG&E's failure to properly identify pipeline segments that should be considered under the GPRP.

We have already considered and addressed CPSD's arguments concerning the possibility that PG&E used salvaged pipe in the construction of Segment 180.⁸¹³ While we cannot completely agree with CPSD's assertions that Segment 180 would have fallen within the scope of the GPRP, we do agree that PG&E's failure to track salvaged pipe in its gas transmission pipeline system prevented PG&E from knowing which portions of pipeline should be reviewed and considered in the GPRP.

For these reasons, we find that PG&E has violated Pub. Util. Code § 451. We find that the start date of this violation is June 1988, when the *Bechtel 1988 Report* revised the upper limit for the GPRP from 1950 to 1947. PG&E's GPRP was intended to assess, prioritize and replace pipeline segments. This would be a continuing violation since failure to have records to ensure that all pipe segments falling within the scope of the GPRP would prevent these segments from ever being evaluated and replaced. Consistent with our discussion regarding the end date for Felts Violation 16 in Section 8.1 above, we find that this violation continued until December 20, 2012, the effective date of the *PSEP Decision*.

9.4.2. Violation C.2: Impact of Inferior Records on Predicting Earthquake Damage

CPSD asserts that because PG&E did not have accurate records of all pipelines in the ground, including the location of reconditioned pipe, it could not precisely identify which pipelines are prone to earthquake damage and take the

⁸¹³ See Section 7.1.1 above.

necessary corrective action.⁸¹⁴ CPSD notes that a 1992 Federal Emergency Management Agency (FEMA) study had observed that pipelines built between 1930 and 1950 had suffered disproportionately severe damage in large earthquakes. CPSD states that since PG&E had missing and inaccurate information about its pipelines, including manufacture dates and weld information, PG&E could not properly identify which of its transmission pipelines are prone to severe damage in a large earthquake.⁸¹⁵ In particular, CPSD contends that if PG&E had maintained accurate and complete records, it would have concluded that Line 132 fell within the scope of the FEMA study and therefore was prone to damage and potential failure during a large earthquake.⁸¹⁶

CPSD contends that PG&E's failure to maintain complete and accurate pipeline records "compromises the safe operation of PG&E's gas transmission pipeline system because of the harm that could result to areas near pipes that are prone to damage and failure during a large earthquake" and is, therefore, a violation of Pub. Util. Code § 451 and ASME B.31.8.⁸¹⁷ CPSD states that although PG&E was aware of its recordkeeping shortfalls prior to 1992, it sets the start date of Violation C.2 as 1992 because it is the publication date of the FEMA study. CPSD states that this is a continuing violation, as PG&E's "poor quality data and records compromised the safety of its gas transmission pipeline system on a daily basis."⁸¹⁸ CPSD states that Violation C.2 ran until September 9, 2010.

⁸¹⁴ CPSD Opening Brief at 213.

⁸¹⁵ CPSD Opening Brief at 217-218.

⁸¹⁶ CPSD Opening Brief at 216-217.

⁸¹⁷ CPSD Opening Brief at 213.

⁸¹⁸ CPSD Opening Brief at 218.

PG&E contends that CPSD reliance on the 1992 FEMA report is unfounded. It notes that this report “provides no evidence regarding PG&E’s program addressing ground movement risks.”⁸¹⁹ In contrast, PG&E notes that *PG&E’s June 20, 2011 Response* discussed how PG&E addressed risks associated with ground movement, including earthquakes.⁸²⁰ PG&E further argues that although CPSD witnesses Duller and North are not engineers, they are alleging a violation regarding the age, specification and weld quality of reconditioned pipe – an area outside of the scope of their expertise.⁸²¹

Although PG&E does extensively discuss the various actions it has undertaken to assess seismic risks in *PG&E’s June 20, 2011 Response*, this discussion does not address the issue raised in Violation C.2 – that missing and inaccurate pipeline records prevented PG&E from properly identifying those pipelines that were prone to damage during severe earthquakes. Similarly, the testimony of PG&E witness Roth focuses on the data analysis and management tools used in assessing seismic risk.⁸²² While we make no determinations regarding the ability of these tools to identify which pipelines would be prone to earthquake damage and the corrective action taken, we do not believe PG&E can properly identify these pipelines if the underlying data is incorrect or missing.

The 1992 FEMA study made the following observations:

Older pipelines, including welded pipelines built before 1950
in accordance with quality control standards less stringent

⁸¹⁹ PG&E Reply Brief at 153.

⁸²⁰ PG&E Reply Brief at 153.

⁸²¹ PG&E Opening Brief at 159-160.

⁸²² Exh. PG&E-61 at 3-49:4 – 3-51:24 (PG&E/Roth).

than those used currently, as well as segmented case iron pipelines, have been severely damaged..."⁸²³

Before the early 1930's, steel pipelines in California were often constructed under quality control less stringent than that imposed today.⁸²⁴

As we determined in Felts Violation 23,⁸²⁵ PG&E has failed to keep records of all reused and reconditioned pipe used in its transmission pipeline system. Based on the evidence in the record, PG&E's pipeline system contains reconditioned pipe that was manufactured between 1929 and 1949. Based on this information, there is a likelihood that the unaccounted-for reconditioned pipe in PG&E's system is of a similar vintage and would have fallen within the scope of the FEMA study. Additionally, PG&E misidentifies the vintage of known reconditioned pipe, as GIS equates the date of re-installation as the date of manufacture, even if the reconditioned pipe had been initially used decades ago. Compounding to this error, GIS sets the date of installation as the date a job is completed.⁸²⁶ Based on PG&E's practice to set the installation date of a pipeline as the latest date possible, any assumed values for pipe specification would likely not reflect the actual characteristics of the reconditioned pipe. This lack of

⁸²³ Exh. CPSD-61 at 6-91 (citing *Earthquake Resistant Construction of Gas and Liquid Fuel Pipeline Systems Serving, or Regulated by, the Federal Government*, Federal Emergency Management Agency, FEMA-233, July 1992 at 45). A copy of this study may be found in Exh. CPSD-18 (Exhibits Disc 1) Duller/North Testimony Exhibits, 045.pdf.

⁸²⁴ Exh. CPSD-61 at 6-91 (citing *Earthquake Resistant Construction of Gas and Liquid Fuel Pipeline Systems Serving, or Regulated by, the Federal Government*, Federal Emergency Management Agency, FEMA-233, July 1992 at 13). A copy of this study may be found in Exh. CPSD-18 (Exhibits Disc 1) Duller/North Testimony Exhibits, 045.pdf.

⁸²⁵ See Section 8.7 above.

⁸²⁶ See Section 9.4.1 above; March 2007 Memo.

accurate pipe records would result in an inability to identify those pipelines prone to extensive damage or failure during some earthquakes.

Based on the above, we find that CPSD has demonstrated that PG&E's failure to have accurate and complete pipeline records compromises the safe operation of PG&E's gas transmission pipeline system by impeding PG&E's ability to precisely identify those pipe segments and pipelines that have a greater potential of failing during a large earthquake. Consequently, PG&E has violated Pub. Util. Code § 451.

We agree with CPSD that the start date for this violation is June 1992, the date the FEMA study was published. Although PG&E may have known that it was missing or had inaccurate pipeline records prior to this date, we agree with CPSD that this date represents the date PG&E was informed of the consequences of its recordkeeping shortcomings as related to earthquake damage. We further find that this is a continuing violation, as PG&E did not take action to correct its recordkeeping shortfalls, even though it had been informed of these deficiencies in the *Bechtel 1984 Report*. Consistent with our discussion regarding the end date for Felts Violation 16 in Section 8.1 above, we find that this violation continued until December 20, 2012, the effective date of the *PSEP Decision*.

9.4.3. Violation C.3: Leak Records

In Violation C.3, CPSD contends that PG&E has "failed to maintain a definitive, complete and readily accessible database of all gas leaks for their pipeline system."⁸²⁷ We have already considered and addressed this allegation in other parts of this Decision, including:

⁸²⁷ PG&E Opening Brief at 11.

- Section 8.6, regarding PG&E's failure to migrate all historical leak records from one system to another; to ensure the accuracy of leak information entered into IGIS; and non-compliant leak survey programs and leak survey records.
- Section 8.9 regarding integrity management decisions being rendered ineffective because PG&E had based decisions upon poor quality, incomplete and inconsistent leak data.

In addressing these issues, we have found that PG&E violated Pub. Util. Code § 451. Although Violation C.3 addresses the consequences of poor recordkeeping of pipeline leak information, we have already considered and reached a decision on each of the specific points identified above. PG&E has not provided any new information to rebut these assertions. Consequently, we affirm the determinations we made in prior Sections.

We agree with CPSD that Violation C.3 began in 1957, the year PG&E began to formally document the detection and repair of leaks. We agree that this should be considered a continuing violation. Consistent with our discussion regarding the end date for Felts Violation 16 in Section 8.1 above, we find that this violation continued until December 20, 2012, the effective date of the *PSEP Decision*.

10. Intervenor's Alleged Violations

Intervenors have generally discussed all allegations under the appropriate CPSD allegation. Further, we have addressed DRA's proposal for an Independent Monitor in Section 5.8 above, and DRA's and TURN's arguments that the costs associated with correcting PG&E's recordkeeping deficiencies should be considered disallowed under Pub. Util. Code § 463 in Section 5.9 above.

10.1. CCSF

CCSF raises the following allegations that we have already addressed elsewhere in this decision:

- CCSF raises two allegations regarding the Grandfather Clause and its relationship to recordkeeping requirements.⁸²⁸ We have addressed both of these issues in Section 5.7.
- CCSF contends that PG&E was unable to verify the MAOP of its pipelines because the necessary records had been lost, destroyed or never created.⁸²⁹ CCSF contends that this is an area where “PG&E’s officers and employees of PG&E have not been ‘ever conscious of the importance of safe operating practices and facilities and of their obligation to the public in that respect.’”⁸³⁰ We have addressed these allegations in our discussion of Duller/North Violations A and B
- CCSF raises two allegations regarding the impact of PG&E’s recordkeeping practices on PG&E’s Integrity Management Program.⁸³¹ We have addressed these issues in Sections 8.9 and 9.2.1.

CCSF also alleges that PG&E violated 49 CFR 192.909(a) by failing to document changes to its integrity management program and the reason for the change.⁸³² As support, CCSF notes that on February 22, 2011, PG&E submitted a copy of its Risk Management Instruction (RMI-06), which described PG&E’s

⁸²⁸ CCSF Opening Brief at 16-18.

⁸²⁹ CCSF Opening Brief at 28-30.

⁸³⁰ CCSF Opening Brief at 29-30.

⁸³¹ CCSF Opening Brief at 30-31.

⁸³² CCSF Opening Brief at 35-36.

practice for reestablishing MAOP in its pipelines, to the NTSB.⁸³³ CCSF states that the version submitted to the NTSB had been identified as “Revision 0” of RMI-06. However, on April 6, 2011, PG&E informed the NTSB and CPSD that the version of RMI-06 it had submitted in February was an “unapproved version.”⁸³⁴ PG&E included a copy of RMI-06 version 0 (dated March 12, 2008) that was in effect at the time of their submission and a copy of the currently-effective RMI-06 version 1 (dated April 5, 2011).

CCSF asserts “Procedures governing Integrity Management actions, such as ones concerning increasing pressure on transmission lines, must be maintained so that such documents are readily retrievable, protected from damage, and secured sufficiently to prevent unauthorized changes.”⁸³⁵ CCSF contends that PG&E was either not properly managing the records to identify changes to its TIMP or, at best, lost version control, when it provided a unapproved draft of RMI-06 revision 1 to the NTSB.

Additionally, CCSF notes that the copy of RMI-06 submitted in February stated “PG&E has made a decision to only reprioritize those pipeline segments that exceeded the historic 5 year MOP plus 10% of the historic 5 year MOP.” Although neither RMI-06 revision 0, nor the currently-effective RMI-06 revision 1 contains the 10 percent provision, CCSF asserts that the version of RMI-06

⁸³³ Exh. CCSF-4, Exhibit 3 (PG&E Amended Response to NTSB Data Request 0396-005), Attachment B.

⁸³⁴ Exh. CCSF-4, Exhibit 4 at 2.

⁸³⁵ CCSF Opening Brief at 36-37.

submitted to the NTSB in February reflects PG&E's existing practices at the time.⁸³⁶

Although CCSF witness Gawronski had discussed the inconsistencies surrounding PG&E's submittal of RMI-06 to the NTSB in his testimony,⁸³⁷ CCSF had not provided sufficient notice to PG&E that it would be alleging a violation of 49 CFR 192.909(a). As such, CCSF cannot raise this alleged violation at this time. Nevertheless, we have taken CCSF's testimony into account as part of our consideration of CPSD's Duller/North violation A.1 concerning the quality of PG&E's records management.

10.2. CARE

CARE alleges no separate violations. It generally supports PG&E in this proceeding.

11. Conclusion

The *Table of Violations and Offenses* set forth in Appendix B compiles the violations we have determined in the foregoing discussion. Pursuant to Pub. Util. Code § 2108, each day's continuance of a violation is a separate and distinct offense. Accordingly, for each violation, the table indicates the date or date range when the violation occurred as the basis for determining the total number of offenses committed by PG&E.

⁸³⁶ CCSF Opening Brief at 37-38.

⁸³⁷ Exh. CCSF-4 at 12:18 – 15:13 (CCSF/Gawronski).

12. Transcript Corrections

PG&E proposes various corrections to the transcripts.⁸³⁸ No parties have opposed PG&E's corrections and they are hereby accepted.

13. Confirmation of Rulings

As expected from a proceeding of this complexity and high level of contention, parties have made numerous requests and filed a large number of motions. The assigned ALJ has issued filed, electronic and oral rulings in response to these motions. This decision confirms all rulings.

14. Assignment of Proceeding

Michel Peter Florio is the assigned Commissioner and Amy C. Yip-Kikugawa is the assigned Administrative Law Judge in this proceeding.

Findings of Fact

1. On September 9, 2010, a 30-inch diameter segment of natural gas transmission pipeline owned and operated by PG&E ruptured in a residential area in San Bruno.
2. On January 3, 2011, the NTSB issued Safety Recommendation P-10-2 and -3 (Urgent) and P-10-4 in which it expressed its concern over the adequacy of PG&E's recordkeeping practices.
3. Based on the Safety Recommendation, as well as a January 26, 2011 statement by the Chair of the NTSB regarding the safety implications of PG&E's recordkeeping practices, the Commission decided to open this OII.
4. PG&E submitted documents and data in response to the directives in the OII between April 18, 2011 and March 19, 2012.

⁸³⁸ PG&E *Opening Brief*, Appendix E.

5. CPSD submitted two separate reports on its investigation on March 12, 2012. The first was titled *Report and Testimony of Margaret Felts*, and the second was titled *Records Management within the Gas Transmission Division of Pacific Gas and Electric Company Prior to the Natural Gas Transmission Pipeline Rupture and Fire, San Bruno, California September 9, 2010*.

6. The *Report and Testimony of Margaret Felts* focused primarily on
1) recordkeeping issues related to the September 9, 2010 San Bruno incident, and
2) recordkeeping issues related to the integrity management program and integrity management risk assessment model used to prioritize the replacement of pipe within PG&E's system.

7. The *Records Management within the Gas Transmission Division of Pacific Gas and Electric Company prior to the Natural Gas Transmission Pipeline Rupture and Fire, San Bruno, California September 9, 2010* focused on "organization, access, storage, preservation, and retention of Gas Transmission records and related documentation.

8. Fines and remedies associated with any violations found in this proceeding will be considered in a coordinated fashion with I.11-11-009 and I.12-01-007.

9. ASME B.31.8, published in 1935, set industry standards for gas transmission operators.

10. ASME B.31.8 was substantially revised in 1955. The 1955 revisions established requirements for testing of pipeline prior to operation and required an operator to maintain test records for the operational life of the asset.

11. ASME B.31.8 contains specific recordkeeping requirements associated with the design, installation, operations and maintenance of transmission pipeline systems.

12. Although compliance with ASME B.31.8 was not required, PG&E stated that it voluntarily followed these standards.

13. GO 112, *Rules Governing Design, Construction, Testing, Maintenance and Operations of Utility Gas Transmission and Distribution Piping Systems*, was adopted by the Commission in 1960.

14. GO 112 generally incorporated the standards contained in the 1958 version of ASME B.31.8 and included a specific section on records.

15. In 1970, the Commission adopted the minimum Federal Pipeline Safety Standards contained in 49 C.F.R. Part 192, as well as some additional state requirements, in GO 112-C.

16. Decision 95-08-053 adopted GO 112-E, which included a new section 104.1 that automatically incorporated any revisions to the Federal Pipeline Safety Standards, 49 C.F.R. Parts 190, 191, 192, 193 and 199.

17. In 1970, the Office of Pipeline Safety promulgated rules regarding the minimum federal pipeline safety standards.

18. 49 C.F.R. Parts 191 and 192 contain reporting and recordkeeping requirements.

19. PG&E had its own internal policies and practices concerning the acquisition, maintenance and retention of records.

20. PG&E's Corporation Standard GOV-2011S, *Guidance Documents Standard Rev. 0*, issued on July 12, 2010, establishes the standards for PG&E Corporation's and its affiliates' and subsidiaries' creation, review, maintenance and cancellation of all procedural guidelines and manuals.

ISSUES OF GENERAL APPLICABILITY

21. The standard of proof in Commission investigation proceedings is by a preponderance of the evidence.

22. Revocation of PG&E's certificate of public convenience and necessity is not a potential remedy in this proceeding.

23. CPSD has alleged violations that have continued for decades, unremediated by PG&E.

24. The Commission has declined to apply the clear and convincing standard even in cases where license revocation was at issue.

25. PG&E acknowledges that pipeline records were lost or misplaced, destroyed, or missing.

26. PG&E has a statutory obligation to preserve records related to the testing and/or maintenance of its pipeline system.

27. PG&E has been unable to produce records pertinent to CPSD's investigation.

28. Since 1970, Federal Regulations require PG&E to keep and maintain for the life of the pipeline component various documents about pipeline repairs and to keep for five years or longer other specified pipeline data.

29. Prior to 1970, ASME B.31.8 and GO 112 included comparable records retention requirements.

30. PG&E destroyed pipeline records.

31. PG&E failure to produce requested safety records has denied CPSD the evidence necessary to prove facts at issue.

32. CPSD witness Felts explained the basis for the start dates for her alleged violations.

33. CPSD witness Felts did not have an independent basis for the end dates for her alleged violations.

34. CPSD witnesses Duller/North explained the basis for the start and end dates for their alleged violations.

35. Of the 37 separate violations alleged by CPSD, all but 3 invoke Pub. Util. Code § 451.

36. The Federal Regulations set the minimum requirements of necessary records to be retained for a pipeline operator to operate its pipeline system in a safe manner.

37. PG&E was aware that its recordkeeping and integrity management programs were deficient prior to the San Bruno explosion.

38. CPSD's alleged violations under Pub. Util. Code § 451 are based on assessing PG&E's compliance with federal and state regulations, ASME B.31.8, and industry standards.

39. Although CPSD had regularly conducted audits of PG&E's gas operations in the past, there was never any representation by CPSD that these audits were a comprehensive review of PG&E's recordkeeping practices.

40. PG&E's failure to preserve a required record would suggest that it is missing information regarding the pipe segment's wall thickness, design pressure, or yield strength. If not cured, this recordkeeping deficiency would continue over a period of time.

41. Once CPSD became aware of the severity of PG&E's recordkeeping practices, it acted promptly and initiated this investigation within months of the San Bruno explosion.

42. PG&E knew by 1984, if not earlier, that there were recordkeeping deficiencies in its gas system.

43. The NTSB articulated the "traceable, verifiable, and complete" requirement in Safety Recommendation P-10-2 and -3 (Urgent) issued on January 3, 2011.

44. PHMSA clarified its interpretation of the terms “traceable, verifiable and complete” in a May 7, 2012 Advisory Bulletin.

45. The requirement to maintain records that would allow for the safe operation of a pipeline system is not new, but something that has been expected at all times.

46. Prior to 1961, pipeline operators in California voluntarily followed the ASME B.31.8 standards, which included standards for pressure testing for pipe after construction and before operation and the type of test to be performed.

47. ASME B.31.8 § 841.417 specified that records of these pressure tests were to be retained for the useful life of the pipeline.

48. In 1961, GO 112 made compliance with the ASME B.31.8 standards mandatory.

49. In 1970, 49 C.F.R. 192.505 set the requirements for strength test of steel pipe to operate at a hoop stress of 30% or more of SMYS; 49 C.F.R. 192.517 required that a record of these tests be retained for the useful life of the pipeline.

50. 49 CFR 192.619 specifies the requirements for setting the MAOP for a pipeline.

51. For pipeline installed prior to 1971, and for which an operator lacks records for setting MAOP, 49 CFR 192.619(c) , also referred to as the “Grandfather Clause,” allows a pipeline operator to “operate a segment of pipeline found to be in satisfactory condition, considering its operating and maintenance history, at the highest actual operating pressure to which the segment was subjected” between 1965 and 1970.

52. Decision (D.) 12-12-030 determined that a natural gas system operator must undertake four separate affirmative obligations in order to comply with 49 CFR 619(c).

53. Although D.12-12-030 approved cost recovery and associated rate increases for the first phase of PG&E's Pipeline Safety Enhancement Program, these rate increases were subject to refund based on adjustments adopted in the Pipeline OIIs.

**ALLEGED RECORDS VIOLATIONS RELATING TO LINE 132,
SEGMENT 180**

Design and Installation of Segment 180

54. Job number GM 136471 is the construction project that installed Segment 180, Line 132 in 1956.

55. Currently, PG&E does not know the source of the section of pipe in Segment 180 that failed.

56. Without source information and specifications, PG&E lacked the necessary design factors to calculate the acceptable operating stress for this section of pipe during its life of service in Line 132.

57. Because PG&E lacked records about the pipe installed in Line 132, it operated the line without knowing whether the operating pressure exceeded the limits set by code to ensure safe operations.

58. PG&E's records do not establish whether the failed pipe section was reused pipe, salvaged from some other location in the PG&E transmission system.

59. Since PG&E has no records of the source of pipe that is Line 132, Segment 180, it cannot prove that the pipe was new.

60. PG&E's records cannot establish the manufacturer or specifications for the failed pipe.

61. If the failed pipe was salvaged, PG&E had no records that show that it was cleaned, inspected, or hydrostatically tested to establish the appropriate MAOP during service in Line 132.

62. If the failed pipe was salvaged, PG&E failed to meet the inspection and other minimum requirements for the safe reuse of salvaged pipe.

63. PG&E's records do not foreclose the possibility that the failed pipe was slated to be junked and was instead installed at San Bruno.

64. The unavailability of construction records for Line 132 undermined the safe operation of the line.

65. PG&E failed to create and/or retain construction records for GM 136471, the project that installed Segment 180.

66. After the pipeline explosion on September 9, 2010, PG&E did locate a Job File for GM 136471 in historical accounting records kept at the Bayshore Records Center in San Francisco, a facility where PG&E kept inactive records.

67. The Job File for GM 136471 contains accounting records that provide some information regarding requisitions for pipe, but no actual design or construction records.

68. The Job File for GM 136471 contains nothing to identify the source of the pipe used in the job, pipe specifications, previous pipe service (if any), or anything pertaining to its installation.

69. PG&E operated Segment 180 for 55 years without construction drawings showing the details of installation.

70. The absence of records detailing the construction of Segment 180 created an unsafe condition.

Operations and Maintenance of Line 132

71. In 1955, PG&E represented to this Commission that it following the ASME B.31.8 standard.

72. There are no records confirming that the pipeline installed as Segment 180 met the design specifications for the project.

73. There are no records that PG&E conducted a pressure test on Segment 180.

74. In 1978, the San Francisco Division reduced the MAOP for sections of Line 132 to 390 psi.

75. From 1978 to 2003, the MAOP for sections of Line 132 was 390 psi.

76. PG&E operated Line 132 at an MAOP of 390 psi for 26 years.

77. In 2003, PG&E determined that the 1978 reduction in MAOP was in error because two pressure logs from 1968 showed that Line 132 had been operated at 400 psi.

78. PG&E has either lost or cannot locate the records which once existed that formed the basis for reducing the MAOP for sections of Line 132 to 390 psi.

79. Despite having no records that Segment 180 had met the design specifications and been tested at 400 psi, PG&E decided in 2004 that the correct MAOP for Line 132 was 400 psi.

80. Starting in 2004, and continuing until September 2010, the MAOP for sections of Line 132 was set at 400 psi.

81. The evidence does not support the claim that the MAOP of 390 psi was erroneous.

82. PG&E operated Line 132 at 400 psi on at least three occasions: December 11, 2003, December 9, 2008, and September 9, 2010.

83. PG&E could operate Line 132 at 400 psi if the MAOP for Line 132 had been tested at 400 psi.

84. Regulations require a hydrostatic test before uprating a pipeline segment.

85. Operating a high-pressure gas transmission above its maximum allowable operating pressure is inherently unsafe because it may damage the integrity of the pipe and can result in pipe failure.

The San Bruno Explosion

86. When problems occurred in the electrical system on September 9, 2010, personnel at Milpitas Terminal and in the San Francisco Gas Control Room lacked the records of the maintenance sequence of steps that could have helped them determine and resolve the cause of the problems.

87. An adequate Clearance Procedure might have helped to identify the source of the electrical problem that led to the over pressuring of the Peninsula pipelines and, thus, might have averted the San Bruno explosion.

88. An adequate Clearance Procedure could have made recovery quicker because there would have been a traceable step-by-step record of each change that has been made to the electrical system.

89. PG&E failed to follow its own safety procedures to create a clearance record for the electrical work performed at the Milpitas Terminal on September 9, 2010.

90. If PG&E personnel had followed the clearance procedure on September 9, 2010, drawings would have been readily available to the maintenance crew during the work and to Gas Control personnel who were attempting to help once problems arose.

91. On September 9, 2010, PG&E personnel at the Milpitas Terminal had access to an outdated map and control room personnel had access to an incomplete diagram of the Milpitas Terminal.

92. Inaccurate representations of the system, either in hard copy or electronic, can lead to inappropriate and unsafe operational decisions during regular operations as well as during emergencies.

93. Due to PG&E's recordkeeping shortfalls, operators lacked the data essential for fully understanding what was happening in its gas transmission system when things went wrong at the Milpitas Terminal on September 9, 2010.

Violations Arising from CPSD Investigation

94. The Commission and PG&E's General Counsel both directed that all evidence relevant to the San Bruno explosion be preserved.

95. PG&E's data response from October 10, 2011 stating that the Brentwood facility video recording for September 9 and 10, 2010 was overwritten after 60 days was contradicted by PG&E's own later data response from March 9, 2012 that no video was recorded.

96. Because PG&E's October 10, 2011 and March 9, 2012 data responses are contradictory, one or both of them must be false.

97. In several data responses to CPSD, PG&E failed to identify all people present at the Milpitas Terminal who were working on the pressure problem on September 9, 2010.

**ALLEGED GENERAL RECORDS VIOLATIONS FOR ALL
TRANSMISSION LINES INCLUDING LINE 132**

Job Files

98. PG&E refers to the job file that contains original documents as the "master job file."

99. The master job file is the file of record.

100. Job Files are PG&E's primary source of information about the construction of PG&E's pipelines.

101. PG&E has identified Job Files as its primary source of information about pipeline characteristics.

102. PG&E does not have a central repository for Job Files.

103. PG&E does not dispute that records in Job Files have been discarded or misplaced.

104. PG&E issues job numbers for all jobs in all lines of business within the utility, not just Gas Transmission.

105. PG&E does not have a system-wide index of all job numbers.

106. PG&E will make duplicate copies of Job Files, which are located in field offices.

107. Job Files in field offices may include documents that are not in the master job file.

108. PG&E employees have spent a total of 250,000 man days of work to gather, review, catalogue and index, copy and analyze PG&E Job Files for all phases of its MAOP validation.

Pipeline History Files

109. Pipeline History Files contained substantially the same information as Job Files, but were organized linearly along the line by mile point.

110. Pipeline History Files are comprised of copies of records obtained from other sources.

111. Pipeline History Files were the source of data used to develop PG&E's Pipeline Survey Sheets.

112. Data from the Pipeline Survey Sheets were used to populate PG&E's Geographic Information System.

113. Standard Practice 463.7, effective December 1, 1969, specified that the Pipeline History File was to be maintained for the life of the facility.

114. Standard Practice 463.7 was discontinued in 1987.

115. PG&E had not been able to find any Pipeline History Files.

116. Other than Standard Practice 463.7, there is no statutory or regulatory requirement for PG&E to retain Pipeline History Files.

Design and Pressure Test Records

117. ASME B.31.8 § 841.417 requires pressure test records to be retained for the life of the pipe.

118. PG&E identified 23,760 pipeline segments designated as Class 3 and 4 High Consequence Areas as lacking strength test records.

119. PG&E is not the only gas transmission pipeline operator with missing pressure test records.

120. Although the Federal Regulations do not define the term “segment”, PG&E has defined that term in its implementation of the Federal Regulations.

121. It is impossible to ascertain whether pressure test records are missing because no pressure test had been conducted, no record of the pressure test had been created, or the record of the pressure test had been lost or destroyed.

Weld Maps and Weld Inspection Records

122. PG&E has generally conducted two types of tests to identify weld defects before putting pipe into service.

123. Pre-test weld inspection test records are to be placed in Job Files.

124. PG&E generally would identify on the A-Form any post-installation weld defects or failures at the time it detected and repaired a pipe leak.

125. Copies of A-Forms are maintained in either Job Files or in separate files located in the local office.

126. PG&E testified in 1955 that its construction practices included weld inspections.

127. Only 6% of PG&E’s Job Files contain weld inspection reports.

128. Most of PG&E’s Job Files are missing weld records.

129. It is unknown whether PG&E may have created weld records, but destroyed or discarded them at some time after creating them.

130. Failure to retain weld maps does not render PG&E's operations unsafe – just more difficult.

131. PG&E's practices do not require the retention of weld maps in Job Files.

Operating Pressure Records

132. Operating pressure records track the operating pressure history over the life of a pipe.

133. PG&E is missing years of operating pressure records.

134. 49 C.F.R. 192.917 requires operators to consider operating pressure data for integrity management purposes and to evaluate whether cyclic fatigue or other loading conditions could lead to a failure of a deformation or defect in the pipe.

135. ASME B.31.8 requires gas pipeline operators to keep necessary records to administer its operations and maintenance procedures and to modify its plans as required.

136. Since at least 1955, PG&E would have created and retained operating pressure records to ensure that its gas transmission pipelines were operated and maintained safely.

Leak Records

137. PG&E has had a leak detection program in place since at least 1958.

138. Standard Practice 460.21-4, established in 1958, required records of leaks discovered, repairs and routine leak survey tests were to be retained for as long as the section of pipe remained in service, plus six years.

139. A-Forms were used to report specific data on pipeline leakage.

140. Over time, A-Forms have required that more detailed data be collected.

141. Information from the A-Forms were retained in electronic recordkeeping leak systems starting in the 1970's, first on a mainframe computer, then on a PC system.

142. When leak data was transferred from PC Leaks to PG&E's IGIS system in 1999, only data for leaks not yet repaired was transferred over.

143. PG&E still retains leak and leak repair data on its mainframe system and in GIS.

144. Leak records are important to the safe operation of a gas pipeline system, as they provide information regarding the condition of the pipe.

145. A 1985 report prepared by Bechtel Petroleum noted the inaccuracy and lack of various data variables in PG&E's records.

146. Inaccurate and incomplete data in PG&E's hardcopy and electronic leak reports and missing leak reports would prevent PG&E from operating its pipeline system safely as required by Pub. Util. Code § 451.

Records to Track Salvaged and Reused Pipe

147. PG&E commonly reused pipe in its transmission system prior to 1970.

148. PG&E did not keep track of where used pipe was reinstalled.

149. After PG&E installed its reused pipe, PG&E could not identify the location of the pipe and its characteristics and specifications.

150. ASME B.31.8 § 817 permits the reuse of pipe if it is properly inspected, repaired and tested.

151. PG&E's witness states that if reconditioning of pipe had been done, there would be charges for the work performed.

152. GIS equates the date of pipe installation as the date of manufacture.

153. Continued use of unidentified reused or reconditioned pipe presents safety risks, especially when this pipe is attributed higher specifications that reflect installation, but not manufacture, date.

Data in Pipeline Survey Sheets and the Geographic Information System

154. PG&E began to develop GIS in the early 1990s.

155. GIS was populated with pipeline data from existing pipeline survey sheets in 1995.

156. Pipeline data from the pipeline survey sheets were not checked for accuracy at the time the data was entered into GIS.

157. PG&E's Quality Assurance/Quality Control program only verified that the data on the pipeline survey sheets were correctly entered into GIS, not that the data on the pipeline survey sheets were accurate.

158. GIS contains erroneous and inaccurate data.

159. PG&E indicated that its entire system of approximately 5,324 miles of pipeline in its transmission system has one or more assumed or unknown values in GIS.

160. Gas control operators, engineers, maintenance personnel and emergency responders rely on data in GIS for making their decisions.

161. PG&E's integrity management system utilizes GIS as a primary source of data.

162. PG&E witness Keas has no personal knowledge of other sources of data, other than GIS, used for integrity management.

163. Inaccurate, missing or assumed data in PG&E's GIS system does not allow PG&E to operate its gas transmission system in a safe manner.

Integrity Management Risk Model

164. Integrity management is the process by which PG&E evaluates the safety risk to its gas pipes, and prioritizes the replacement of pipe or other safety measures to most effectively reduce that risk and the danger to the public of gas pipe failure.

165. PG&E has known since 1985 that its pipeline data and records were incomplete, inaccurate and inadequate.

166. PG&E's Risk Management Procedure, RMP-08, recognizes the need to verify the quality and consistency of data used for integrity management.

167. PG&E's integrity management decisions have been made using incomplete, inaccurate, and assumed data values.

Missing Report for 1988 Weld Failure

168. In 1988, PG&E had identified a pinhole leak on a longitudinal weld in a section of 30 inch pipe on Line 132.

169. The identified section of pipe was removed and found to contain several weld shrinkage cracks that were determined to be pre-service defects.

170. There is insufficient evidence to conclude that PG&E had prepared a separate report as part of its inspection of the weld failure.

171. PG&E was aware of the pre-service defect in the longitudinal weld based on all the other documentation concerning this weld failure and subsequent inspection.

Missing Report for 1963 Weld Failure

172. In 1963, there was a fire and explosion on Line 109.

173. PG&E requested a report from a consulting metallurgist on the quality of a circumferential weld and the probable causes of the rupture.

174. PG&E is unable to locate a copy of the consulting metallurgist's report.

175. Unlike a pinhole leak in a longitudinal weld, an explosion of a section of a gas transmission pipeline that was likely caused by a defective circumferential weld is not irrelevant or insignificant.

176. Under PG&E's policies, this type of weld inspection report would be included in the job file and retained for the life of the pipeline.

ALLEGED VIOLATIONS PREDICATED ON THE REPORTS AND TESTIMONY OF DR. PAUL DULLER AND ALISON NORTH

177. The GARP principles are accountability, transparency, integrity, protection, compliance, availability, retention and disposition.

178. Consultants at PwC used GARP as a source for evaluating PG&E's Gas Records and Information Management Assessment effort.

179. PG&E witness Dunn did not review any of PG&E's Job Files or pipeline records and, thus, has no first-hand knowledge of PG&E's recordkeeping practices.

General Records Management (Violation A)

180. PG&E is missing strength test records for 23,760 pipe segments within Class 3 and 4 High Consequence Areas.

181. More than 94% of PG&E's Job Files in its Emeryville storage facility are missing weld records.

182. There are large numbers of Job Files missing from PG&E's current master collection in Emeryville.

183. PG&E is missing Job Files for pipelines throughout its system.

184. PG&E has numerous Job Files that are incomplete (missing documents).

185. CPSD has failed to prove that PG&E's failure to retain operating pressure records from 1965 - 1970 and 1999 prevents PG&E from safely operating its gas transmission pipeline system.

186. PG&E's GIS system contains inaccurate and erroneous data for key safety attributes, including wall thickness and longitudinal seams.

187. PG&E retains leak data in separate databases and multiple formats (hard copies and electronic).

188. PG&E's leak data is not readily accessible.

189. Leak data in the IGIS system contains data entry errors or are missing.

190. Prior to the San Bruno explosion, PG&E had not maintained an organized set or records showing the location and use of reconditioned pipe.

191. PG&E uses assumed data values in those instances where there were missing values in GIS.

192. PG&E has revised assumed values for joint efficiency, wall thickness and SMYS to either more conservative assumed values or more conservative known values.

193. PG&E must have sufficient documents to support the assumed data values utilized in GIS.

194. PG&E's revision of assumed data values in GIS to more conservative assumed, or known, data values means that the initial assumed values were not conservative enough to ensure safe operation of PG&E's pipeline system.

195. Many of PG&E's pipeline failure metallurgical reports are missing and PG&E's Analytical Report Library, which contains PG&E's metallurgical reports, is incomplete.

196. PG&E's employees in the business units or locations were not educated on records management and the importance of various types of records.

197. There was no coordination of PG&E's gas transmission pipeline records across the company.

198. PG&E management failed to comprehensively address mandatory recordkeeping requirements across PG&E's gas transmission system.

199. PG&E's failure to establish consistent company-wide practices to maintain and retain mandatory records for the safe operation of its gas transmission pipeline records can be attributed to poor management oversight.

200. PG&E's lack of management oversight prevented PG&E line employees from properly maintaining and retaining the essential pipeline records and data, may have contributed to erroneous decisions regarding pipeline replacement, or incorrect risk assessments.

Records Retention (Violation B)

201. PG&E has multiple records retention schedules which are applicable to different functional and operating divisions. Consequently, a single type of document (e.g., leak surveys) may be subject to different retention periods.

202. The Gas Standards specified records retention periods that complied with 49 CFR 192.

203. PG&E's response to CPSD data requests regarding records retention policies and standards does not identify the Gas Standards as governing the day-to-day operations of Gas Operations.

204. The FERC does not have safety oversight over gas transmission pipelines.

205. FERC Order 450 states that its regulations do not excuse compliance with other lawful requirements or for preserving records for periods longer than prescribed in 18 CFR 225.

206. The requirements contained in 49 CFR 192 represent the minimum safety requirements and states could impose stricter requirements.

207. In Decision 78513 and D.95-08-053, the Commission noted that 49 CFR 192 supplemented, but did not replace, the existing, more stringent requirements under GO 112.

208. The actions underlying Violations B.2, B.3 and B.4 all began prior to 1971.

209. PG&E's internal policies mandate that pressure test records be maintained for the life of the facility.

210. Based on the confusion presented by PG&E's various retention standards and guidelines, employees may not be following the records retention policies mandated by the ASME B.31.8, GO 112 and 49 CFR 192.

Other Safety/Pipeline Integrity Violations (Violation C)

211. PG&E launched its Gas Pipeline Replacement Program in 1985.

212. PG&E hired Bechtel Petroleum, Inc. to conduct a risk analysis to develop a methodology and database to prioritize replacement of transmission line segments and distribution mains.

213. Pipes with unusual (SPIRAL or A.O. Smith) longitudinal seams have a greater potential to fail.

214. Pipes with unusual (BBCR or BLSP) joints have a greater potential to fail.

215. The *Bechtel 1984 Report* noted that pipes with unusual longitudinal seams or joints only appeared in the "prior to 1950 lines."

216. The *Bechtel 1988 Report* determined that pipes with unusual longitudinal seams or joints only appeared in "lines installed prior to 1947."

217. A March 2007 Memo identified sections of Lines 132 and 151 installed after 1947 that contained BBCR and BLSP joints.

218. PG&E did not re-consider whether to include sections of Lines 132 and 151 installed after 1947 that contained BBCR and BLSP joints in the Gas Pipeline Replacement Program.

219. Since PG&E's Job Files were not complete and easily accessible, PG&E may not have set the proper cutoff date for pipeline to be considered in the Gas Pipeline Replacement Program.

220. PG&E equates installation date of a job with project completion date, even though the project completion date may be years after the pipeline is in operation.

221. PG&E does not track the location of re-used and reconditioned pipe installed in its gas transmission pipeline system.

222. GIS equates the date of re-installation of re-used and reconditioned pipe as the date of manufacture.

223. PG&E's gas transmission pipeline system contains reconditioned pie that was manufactured between 1929 and 1949.

224. The 1992 FEMA study observed that older pipelines, including welded pipelines built before 1950, were constructed under less stringent quality control standards and more likely to fail in the event of a large earthquake.

225. Line 132 may contain older pipe of the vintage that is within the scope of the 1992 FEMA study and is, therefore, prone to damage and potential failure during a large earthquake.

226. PG&E did not migrate all historical leak records from one electronic database system to another.

227. PG&E did not verify the accuracy of leak information entered into IGIS.

228. PG&E failed to perform timely leak surveys.

229. PG&E has based its integrity management decisions on poor quality, incomplete and inconsistent leak data.

Alleged Violations Raised by Intervenors

230. PG&E failed to perform timely leak surveys.

231. Intervenors discussed all allegations under the appropriate CPSD allegation.

Conclusions of Law

Issues of General Applicability

1. None of the potential non-monetary sanctions identified by PG&E rise to the level of depriving PG&E of a fundamental right.

2. Under Pub. Util. Code § 2108, each day's continuance of a violation is a separate and distinct offense.

3. In an enforcement proceeding, CPSD generally has the burden of proving a violation.

4. The doctrine of spoliation of evidence may apply when litigation was reasonably foreseeable and when there is a duty to preserve evidence.

5. The doctrine of spoliation is applicable in this proceeding.

6. Traditional remedies for spoliation do not include a burden shifting approach.

7. The Commission should draw the strongest possible adverse inference against PG&E in reference to missing records.

8. PG&E has the burden of producing evidence that any violations found to be continuing offenses have either been cured or are incapable of being cured.

9. Pub. Util. Code § 451 requires all public utilities to provide and maintain "adequate, efficient, just and reasonable" services and facilities as are necessary for the "safety, health, comfort, and convenience" of its customers and the public.

10. Pub. Util. Code § 451 serves as a separate and individual basis for finding safety violations.

11. There is nothing to suggest that safety is not an absolute duty under Pub. Util. Code § 451.

12. The text of Pub. Util. Code § 451 is unambiguous.

13. There is no redundancy or superfluity in the co-existence of the general overarching safety obligation established by Pub. Util. code § 451 and specific safety requirements such as those set forth in GO 112.

14. PG&E had an obligation to safely maintain its pipeline facilities prior to the adoption of GO 112.

15. Compliance with ASME B.31.8 was relevant to assessing whether PG&E fulfilled the safety obligation under Pub. Util. Code § 451.

16. The Natural Gas Pipeline Safety Act serves as a complement to the general safety obligation under Pub. Util. Code § 451.

17. PG&E had sufficient prior notice that it could be found to have violated Pub. Util. Code § 451 because of deficient recordkeeping practices.

18. PG&E's recordkeeping deficiency that is not cured is properly considered a continuing violation under Pub. Util. Code § 2108.

19. The public safety mandate in Pub. Util. Code § 451, as well as the recordkeeping requirements in ASME B.31.8, GO 112 and 49 C.F.R, are intended to protect the public from the inherent dangers associated with transporting gas under high pressure. Therefore, to conclude that this enforcement action is barred by laches would undermine this public safety mandate.

20. The application of administrative laches is barred as a matter of law.

21. PG&E has failed to demonstrate that CPSD unreasonably delayed bringing forward these charges.

22. PG&E has failed to demonstrate that it suffered prejudice as a result of CPSD's alleged unreasonable delay in bringing forward this enforcement proceeding.

23. To find that the doctrine of laches would serve as a bar to bringing enforcement proceedings for longstanding violations that were only recently discovered would limit the Commission's ability to impose penalties to deter future wrongdoing.

24. PHMSA's interpretation of the terms "traceable, verifiable and complete" does not impose any requirements that were not already required under 49 C.F.R 192.

25. The requirement to maintain records that will allow for the safe operation of a pipeline system is not new, but something that has been expected at all times.

26. There is no violation of due process in applying the "traceable, verifiable and complete" requirement to PG&E's recordkeeping activities prior to January 3, 2011.

27. 49 CFR 192.619 does not relieve pipeline operators from maintaining and retaining the records necessary for the operation and maintenance of pipelines installed prior to 1971.

28. 49 CFR 192.619 (c), along with the recordkeeping requirements contained in other sections of 49 CFR 192, should be interpreted as requiring pipeline operators to retain pipeline design, construction, operating history, material and component records, as well as pressure test records for pipelines installed prior to 1971.

29. 49 CFR 192.619(c) does not exempt operators from the recordkeeping requirements mandated under ASME B.31.8, 49 CFR 192, or GO 112-E and its predecessors

30. The issue of whether to include a disallowance pursuant to Pub. Util. Code § 463 as one of the remedies for violations found in this proceeding shall be considered in our subsequent decision on fines and remedies.

31. It is within our discretion to invite and permit intervenors to fully participate in our enforcement proceedings, including participation by alleging violations.

Alleged Violations Relating to Line 132, Segment 180

32. It would be reasonable to infer that PG&E had used salvaged pipe in Segment 180 and did not follow ASME B.31.8 requirements with respect to the re-use of used pipe.

33. PG&E's lack of accurate and sufficient records to determine whether it had used salvaged pipe in Segment 180 impacted its ability to safely maintain and operate this segment in violation of Pub. Util. Code § 451. (Felts Violation 1) This violation ran from 1956 to September 9, 2010.

34. PG&E violated Pub. Util. Code § 451 for failing to retain the necessary design and construction records in Job File GM 136471 for the construction of Segment 180. (Felts Violation 2) This violation ran from 1956 to September 9, 2010.

35. PG&E violated ASME B.31.8 § 841 and Pub. Util. Code § 451 for failing to perform a post-installation pressure test on Segment 180 and retaining the record of that test for the life of the facility. (Felts Violation 3) This violation ran from 1956 to September 9, 2010.

36. PG&E violated Pub. Util. Code § 451 by increasing the MAOP of Line 132 from 390 psi to 400 psi without conducting a hydrostatic test. (Felts Violation 4) This violation ran from December 10, 2003 to September 9, 2010.

37. PG&E violated Pub. Util. Code § 451 by operating Line 132 above 390 psi on December 11, 2003, December 9, 2008 and September 9, 2010 without having records to substantiate the higher operating pressure. (Felts Violation 11) These constitute three separate violations. The first violation ran from December 11, 2003 to September 9, 2010; the second violation ran from December 9, 2008 to September 9, 2010; and the final violation occurred on September 9, 2010.

38. PG&E violated Pub. Util. Code § 451 by failing to provide the proper clearance procedures for work performed at the Milpitas Terminal on September 9, 2010. (Felts Violation 5) This violation ran from August 27, 2010 to September 9, 2010.

39. PG&E violated Pub. Util. Code § 451 by failing to have accurate drawings and computer diagrams of the Milpitas Terminal. (Felts Violation 7) This violation ran from December 2, 2009 to July 2011.

40. PG&E violated Pub. Util. Code § 451 by failing to have accurate SCADA diagrams. (Felts Violation 7 and 9) This violation ran from December 2, 2009 to October 27, 2010.

41. PG&E violated Pub. Util. Code § 451 by failing to have the necessary backup software readily available at the Milpitas Terminal on September 9, 2010. (Felts Violation 8) This violation occurred on September 9, 2010.

42. A violation of Rule 1.1 of the Commission's Rules of Practice and Procedure can result from a reckless or grossly negligent act.

43. PG&E's actions regarding the existence of a video recording in Camera 6 shortly after the San Bruno explosion was grossly negligent.

44. PG&E's October 10, 2011 data response about the video recording for Camera 6 misled Commission staff and impeded their investigation into the San Bruno explosion. (Felts Violation 13) This is a violation of Rule 1.1 of the Commission's Rules of Practice and Procedure.

45. Failure to identify all personnel that CPSD seeks can impede CPSD's investigation and compromise the Commission's ability to make a fully informed decision.

46. PG&E violated Rule 1.1 by misleading CPSD in two separate data responses regarding personnel present at the Milpitas Terminal who were working on the pressure problem on September 9, 2010. (Felts Violation 14) The first violation occurred on October 10, 2011, PG&E's response to DR 30, Q 8.d; the second violation occurred on December 17, 2011, PG&E's response to DR 30, Q 2. Both violations ran until January 15, 2012.

**Alleged Violations Relating to All Transmission Lines,
Including Line 132**

47. An adverse inference should be drawn against PG&E that it has missing Job Files.

48. An adverse inference should be drawn against PG&E that it has incomplete Job Files.

49. Failure to comply with the mandates of D.12-12-030 shall subject it to penalties under Pub. Util. Code § 2107.

50. PG&E's recordkeeping practices with respect to Job Files adversely impacts its ability to operate its gas transmission pipeline system in a safe manner and violates Pub. Util. Code § 451. (Felts Violation 16) This violation ran from 1987 to December 12, 2012.

51. There is no statutory or legal requirement to retain duplicate copies of pipeline records in separate files.

52. The requirement to maintain Pipeline History Files rests solely on Standard Practice 463.7. Once that standard practice was rescinded, there was no longer any requirement to maintain Pipeline History Files.

53. An adverse inference should be drawn against PG&E that in those instances where it does not have records of strength test, the tests were never conducted, the tests were conducted but no records were created, or the strength test records were destroyed.

54. PG&E has failed to retain pressure test records for all segments of its gas transmission pipeline system as required by Pub. Util. Code § 451, ASME B.31.8, GO 112 through 112-B and PG&E's internal records retention policies. (Felts Violation 18) This violation ran from 1956 through December 20, 2012.

55. It is reasonable to infer that PG&E lost or destroyed weld inspection reports.

56. PG&E violated ASME B.31.8 § 828.2, GO 112 through 112-B § 206.1, 49 CFR 192.241 and 192.243 and PG&E's Standard Practice 1605 by failing to retain weld inspection reports. (Felts Violation 19) This violation ran from 1955 through December 20, 2012.

57. PG&E violated Pub. Util. Code § 451 for failing to maintain records necessary to ensure the safe operations of its gas transmission pipeline system by failing to create and retain operating pressure records over the life of the pipe. (Felts Violation 20) This violation ran from 1955 to December 17, 2004.

58. It is reasonable to infer that during the period covered by the OII, PG&E prepared leak records that contained inaccurate and incomplete data.

59. Information in A-Forms should be complete and accurate, whether they are completed in 1930 or 2010.

60. Starting in 1955, inaccurate and incomplete data in PG&E's leak reports would prevent PG&E from operating its gas transmission pipeline system safely, as required by Pub. Util. Code § 451. (Felts Violations 21 and 22) This violation ran from 1955 to December 20, 2012.

61. PG&E violated Pub. Util. Code § 451 by failing to retain records of reconditioned and reused pipe in its transmission pipeline system. (Felts Violation 23) This violation ran from 1940 to December 20, 2012.

62. PG&E violated Pub. Util. Code § 451 by failing to ensure the accuracy of data in its GIS system and assuming values for missing data that were not conservative. (Felts Violation 24) This violation ran from 1995 to December 20, 2012.

63. PG&E violated Pub. Util. Code § 451 because its ability to assess the integrity of its pipeline system and effectively manage risk is compromised by the availability and accuracy of its pipeline data. (Felts Violation 25) This Violation ran from December 17, 2004 to December 20, 2012.

64. PG&E violated Pub. Util. Code § 451 for failing to retain a metallurgist report concerning a 1963 fire and explosion on Line 109 caused by a failure in a circumferential weld. (Felts Violation 27) This violation ran from 1963 to December 20, 2012.

Allegations Predicated on Duller/North Report

65. The GARP principles and the Information Governance Maturity Model do not create a new standard for evaluating PG&E's recordkeeping practices.

66. CPSD is not precluded from using GARP to evaluate PG&E's records management.

67. Prevailing industry practice is not a basis for determining reasonableness if the practice violates federal or state laws, regulations or requirements.

68. CPSD has proven that PG&E failed to retain strength test records.

69. CPSD has proven that PG&E failed to retain weld records.

70. CPSD has proven that PG&E's Job Files are incomplete or missing; that there is no master index of Job Files, and that there are duplicate copies of Job Files.

71. CPSD has proven that PG&E failed to retain operating pressure test records from 1965 to 1977.

72. CPSD has proven that PG&E's GIS system contained inaccurate and erroneous data for key safety attributes.

73. CPSD has proven that PG&E failed to retain leak data and that the leak data in IGIS contains data entry errors or missing data.

74. CPSD has not proven that PG&E violated Standard Practice 463.7 by failing to retain Pipeline History Files.

75. CPSD has proven that PG&E failed to maintain an organized set of records showing the location and use of reconditioned pipe.

76. The purpose of the change log would be to correct (or make more accurate) the assumed value of data in GIS.

77. PG&E bears the burden to prove that it had sufficient documents to support the assumed data values adopted in GIS.

78. PG&E violated Pub. Util. Code § 451 to the extent that it adopted assumed values that are not supported by the record.

79. PG&E violated Pub. Util. Code § 451 by failing to retain all gas pipeline failure metallurgical reports and make them available

80. The record does not support a conclusion that PG&E's employees in the business units or locations were educated on records management and the importance of various types of records.

81. Based on PG&E's decentralized recordkeeping approach, there was no coordination of PG&E's gas transmission pipeline records across the company.

82. Because PG&E's records contain missing, inaccurate, incomplete or duplicative records and data, the quality of the data that is available is suspect.

83. PG&E's failure to establish consistent company-wide practices to maintain and retain mandatory records for the safe operation of its gas transmission pipeline system can be attributed to poor management oversight.

84. The shortcomings in PG&E's records management activities has resulted in PG&E's inability to operate and maintain PG&E's gas transmission line in a safe manner and violate Pub. Util. Code § 451; GO 112 through 112-B, Section 107; ASME B.31.8. (Duller/North Violation A.1) This violation ran from 1955 to December 20, 2012.

85. PG&E's failure to mention that the Gas Standards govern the day-to-day operations of its Gas Operations group in its data responses suggests that PG&E was either confused about its own retention schedules or deliberately did not provide complete responses to CPSD.

86. Resolution FA 570 does not relieve PG&E of its records responsibilities under 49 CFR 192.

87. The Commission adoption of 49 CFR 192 was to supplement, not replace existing regulations. Therefore, the stricter requirements adopted in GO 112 remained in effect.

88. PG&E violated ASME B.31.8 § 851.5 by failing to retain records of Leak Survey Maps for as long as the line remains in service. (Duller/North Violation B.1) This violation ran from April 16, 2010 to December 20, 2012.

89. PG&E violated ASME B.31.8 § 851.5 by failing to retain records of Line Patrol Reports for as long as the line remains in service. (Duller/North Violation B.2) This violation ran from September 1, 1964 to December 20, 2012.

90. PG&E violated ASME B.31.8 § 851.5 by failing to retain records of Line Inspection Reports as long as the line remains in service. (Duller/North Violation B.3) This violation ran from December 17, 1991 to December 20, 2012.

91. PG&E violated ASME B.31.8 § 851.417 by failing to retain pressure test records for the useful life of the pipeline. (Duller/North Violation B.4) This violation ran from September 1, 1964 to December 20, 2012.

92. PG&E violated ASME B.31.8 § 851.5 by failing to retain records of transmission line inspections for as long as the line remains in service. (Duller/North Violation B.5) This violation ran from September 1, 1964 to December 20, 2012.

93. The PwC Report findings suggest that PG&E employees may not be complying with the company's records retention policies.

94. PG&E violated 49 CFR 13(c) for failing to comply with its internal records retention policies. (Duller/North Violation B.6) This violation ran from 1955 to December 20, 2012.

95. PG&E violated Pub. Util. Code § 451 by failing to identify and include in the GPRP all pipe segments with unusual longitudinal seams and joints. (Duller/North Violation C.1) This violation ran from June 1988 to December 20, 2012.

96. PG&E violated Pub. Util. Code § 451 because missing and inaccurate pipeline records prevented PG&E from properly identifying and replacing those pipelines that were prone to damage during severe earthquakes. (Duller/North Violation C.2) This violation ran from June 1992 to December 20, 2012.

97. PG&E violated Pub. Util. Code § 451 for failing to maintain a definitive, complete and readily accessible database of all gas leaks for their pipeline system. (Duller/North Violation C.3) This violation ran from 1957 to December 20, 2012.

98. CCSF did not provide sufficient notice to PG&E that it would be alleging a violation of 49 CFR 192.909(a).

99. All rulings issued by the assigned ALJ should be confirmed.

100. This proceeding should remain open to consider the fines and remedies to be imposed as a result of the violations found in this decision.

O R D E R

IT IS ORDERED that:

1. Pacific Gas and Electric Company (PG&E) has violated American Society of Mechanical Engineers B.31.8, Public Utility Code Section 451, General Order 112, and regulations set forth in Title 49 of the Code of Federal Regulations Part 192 for failing to maintain its gas transmission pipeline records in a manner to allow safe operation of its gas transmission pipeline system. PG&E has also violated Rule 1.1 of the Commission's Rules of Practice and Procedure for providing incorrect and misleading information to Commission staff. The fines and remedies to be imposed as a result of the violations found in this decision shall be considered in coordination with Investigations (I.) 11-11-009 and I.12-01-007.
2. Investigation 11-02-016 remains open.

This order is effective today.

Dated _____, at San Francisco, California.

APPENDIX A

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(END OF APPENDIX A)

APPENDIX B

Table of Violations

Appendix B**Table of Violations - OII 11-02-016**

	Violation (abbreviated description; see applicable conclusion of law for full statement of violation)	Duration	Pre-1/01/1994 Days in Violation	Post-1/01/1994 Days in Violation	Total Days in Violation
1	No records for salvaged pipe installed into Segment 180 - Violation of Public Utilities Code Section 451 (Felts Violation 1)	1956- September 9, 2010	13,698	6,095	19,793
2	Failure to create/retain construction records for 1956 project GM 136471 - Violation of Public Utilities Code Section 451 (Felts Violation 2)	1956- September 9, 2010	13,698	6,095	19,793
3	Failure to create/retain post-installation pressure test records for Segment 180 - Violation of Public Utilities Code Section 451 and ASME B.31.8 Section 841 (Felts Violation 3)	1956- September 9, 2010	13,698	6,095	19,793
4	Increase MAOP of Line 132 without conducting hydrostatic test - Violation of Public Utilities Code Section 451 (Felts Violation 4)	December 10, 2003 - September 9, 2010		2,465	2,465
5	Failure to Follow Procedures to Create Clearance Record - Violation of Public Utilities Code Section 451 (Felts Violation 5)	August 27, 2010 - September 9, 2010		13	13
6	Out of date drawings and computer diagrams of Milpitas Terminal - Violation of Public Utilities Code Section 451 (Felts Violation 7)	December 2, 2009 - July 2011		590	590
7	Failure to have accurate SCADA diagrams - Violation of Public Utilities Code Section 451 (Felts Violations 7 and 9)	December 2, 2009 - October 27, 2010		329	329
8	No Back-up Software at the Milpitas Terminal - Violation of Public Utilities Code Section 451 (Felts Violations 8)	September 9, 2010		1	1
9	Operated Line 132 in excess of 390 MAOP - Violation of Public Utilities Code Section 451 (Felts Violation 11)	December 11, 2003 - September 9, 2010		2,464	2,464
10	Operated Line 132 in excess of 390 MAOP - Violation of Public Utilities Code Section 451 (Felts Violation 11)	December 9, 2008 - September 9, 2010		639	639

Appendix B**Table of Violations - OII 11-02-016**

	Violation (abbreviated description; see applicable conclusion of law for full statement of violation)	Duration	Pre-1/01/1994 Days in Violation	Post-1/01/1994 Days in Violation	Total Days in Violation
11	Operated Line 132 in excess of 390 MAOP - Violation of Public Utilities Code Section 451 (Felts Violation 11)	September 9, 2010		1	1
12	PG&E's Contradictory Data Responses Regarding Recorded Brentwood Camera 6 Video - Violation of Commission Rules of Practice and Procedure Rule 1.1 (Felts Violation 13)	October 10, 2011 - March 9, 2012		151	151
13	PG&E's Data Response 30, Q 8.d Did Not Identify All of the People in Milpitas Handling the Pressure Problem on September 9, 2010 - Violation of Commission Rules of Practice and Procedure Rule 1.1 (Felts Violation 14)	December 17, 2011 - January 15, 2012		29	29
14	PG&E's Data Response 30, Q 2 Did Not Identify All of the People in Milpitas Handling the Pressure Problem on September 9, 2010 - Violation of Commission Rules of Practice and Procedure Rule 1.1 (Felts Violation 14)	December 17, 2011 - January 15, 2012		29	29
15	PG&E's recordkeeping practices for Job Files adversely impacts ability to operate transmission pipeline system safely - Violation of Public Utilities Code Section 451. (Felts Violation 16)	1987 - December 12, 2012	2,376	6,928	9,304
16	PG&E failed to retain pressure test records for all segments of its gas transmission pipeline system - Violation of Public Utilities Code Section 451, ASME B.31.8, GO 112 through 112-B and PG&E's internal records retention policies (Felts Violation 18)	1956 - December 20, 2012	13,698	6,928	20,626
17	Weld Inspection Records Missing or Incomplete - Violation of Public Utilities Code Section 451, 49 CFR 192.241 and 192.243, ASME B.31.8, General Orders 112, 112-A, 112-B, section 107. (Felts Violation 19)	1955 - December 20, 2012	14,064	6,928	20,992

Appendix B**Table of Violations - OII 11-02-016**

	Violation (abbreviated description; see applicable conclusion of law for full statement of violation)	Duration	Pre-1/01/1994 Days in Violation	Post-1/01/1994 Days in Violation	Total Days in Violation
18	Operating Pressure Records Missing, Incomplete or Inaccessible - Violation of Public Utilities Code Section 451 (Felts Violation 20)	1955 - December 17, 2004	14,064	4,003	18,067
19	Inaccurate and incomplete data in leak reports; missing leak records - Violation of Public Utilities Code Section 451 (Felts Violations 21 and 22)	1955 - December 20, 2012	14,064	6,928	20,992
20	Failure to retain records of reconditioned and reused pipe in transmission pipeline system - Violation of Public Utilities Code Section 451 (Felts Violation 23)	1940 - December 20, 2012	19,542	6,928	26,470
21	Failure to ensure the accuracy of data in GIS and to adopt conservative assumed values for missing data in GIS - Violation of Public Utilities Code Section 451 (Felts Violation 24)	1995 - December 20, 2012		6,382	6,382
22	PG&E unable to assess the integrity of its pipeline system and effectively manage risk - Violation of Public Utilities Code Section 451 (Felts Violation 25)	December 17, 2004 - December 20, 2012		2,925	2,925
23	Failure to retain metallurgist report concerning a 1963 flare and explosion on Line 109 - Violation of Public Utilities Code Section 451 (Felts Violation 27)	1963 - December 20, 2012	11,142	6,928	18,070
24	Inability to operate and maintain PG&E's gas transmission pipeline system in a safe manner due to poor records management activities - Violation of Public Utilities Code Section 451, GO 112 through 112-B, Section 107, ASME B.31.8. (Duller/North Violation A.1)	1955 - December 20, 2012	14,064	6,928	20,992
25	Failure to retain records of Leak Survey Maps - Violation of ASME B.31.8 Section 851.5. (Duller/North Violation B.1)	April 16 2010 - December 20, 2012		979	979

I.11-02-016 ALJ/POD-AYK/lil **Appendix B**
Table of Violations - OII 11-02-016

	Violation (abbreviated description; see applicable conclusion of law for full statement of violation)	Duration	Pre-1/01/1994 Days in Violation	Post-1/01/1994 Days in Violation	Total Days in Violation
26	Failure to retain records of Line Patrol Reports - Violation of ASME B.31.8 Section 851.5. (Duller/North Violation B.2)	September 1, 1964 - December 20, 2012	10,714	6,928	17,642
27	Failure to retain records of Line Inspection Reports - Violation of ASME B.31.8 Section 851.5. (Duller/North Violation B.3)	December 17, 1991 - December 20, 2012	746	6,928	7,674
28	Failure to retain pressure test records - Violation of ASME B.31.8 Section 851.417. (Duller/North Violation B.4)	September 1, 1964 - December 20, 2012	10,714	6,928	17,642
29	Failure to retain records of transmission line inspections - Violation of ASME B.31.8 Section 851.5. (Duller/North Violation B.5)	September 1, 1964 - December 20, 2012	10,714	6,928	17,642
30	Failure to comply with internal records retention policies - Violation of 49 C.F.R. 192.13(c). (Duller/North Violation B.6)	1955 - December 20, 2012	14,064	6,928	20,992
31	Failure to identify and include in all pipe segments with unusual longitudinal seams and joints for replacement - Violation of Public Utilities Code Section 451. (Duller/North Violation C.1)	June 1988 - December 20, 2012	2,026	6,928	8,954
32	Failure to properly identify and replacing those pipelines that were prone to damage during severe earthquake - Violation of Public Utilities Code Section 451. (Duller/North Violation C.2)	June 1992 - December 20, 2012	565	6,928	7,493
33	Failure to maintain comprehensive database for all gas leaks in transmission pipeline system - Violation of Public Utilities Code Section 451. (Duller/North Violation C.3)	1957 - December 20, 2012	13,333	6,928	20,261
Total Days in Violation			206,984	143,205	350,189

(END OF APPENDIX B)